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The OIL and GAS JOURNAL

PRODUCING REFINING ENGINEERING MARKETING

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embody basic engineering principles

and ALWAYS *dig* MORE HOLE

many reasons why→

No after reaming—the driller's dread—is necessary if you use the BJ Reamer Disc Bit. It's a smooth running, fast digging bit that will drill the hardest formation absolutely to gauge.

This bit makes Straight Hole—and lots of it for the very important reason that it is especially adaptable to the absolute necessity of minimizing weight on the bit if crooked hole is to be eliminated. The BJ Disc Bit has no equal for speed and efficiency (5 times the cutting surface of a fish tail) and sets up less drag and danger of twistoffs than any other bit. Lots of room for circulation, too.

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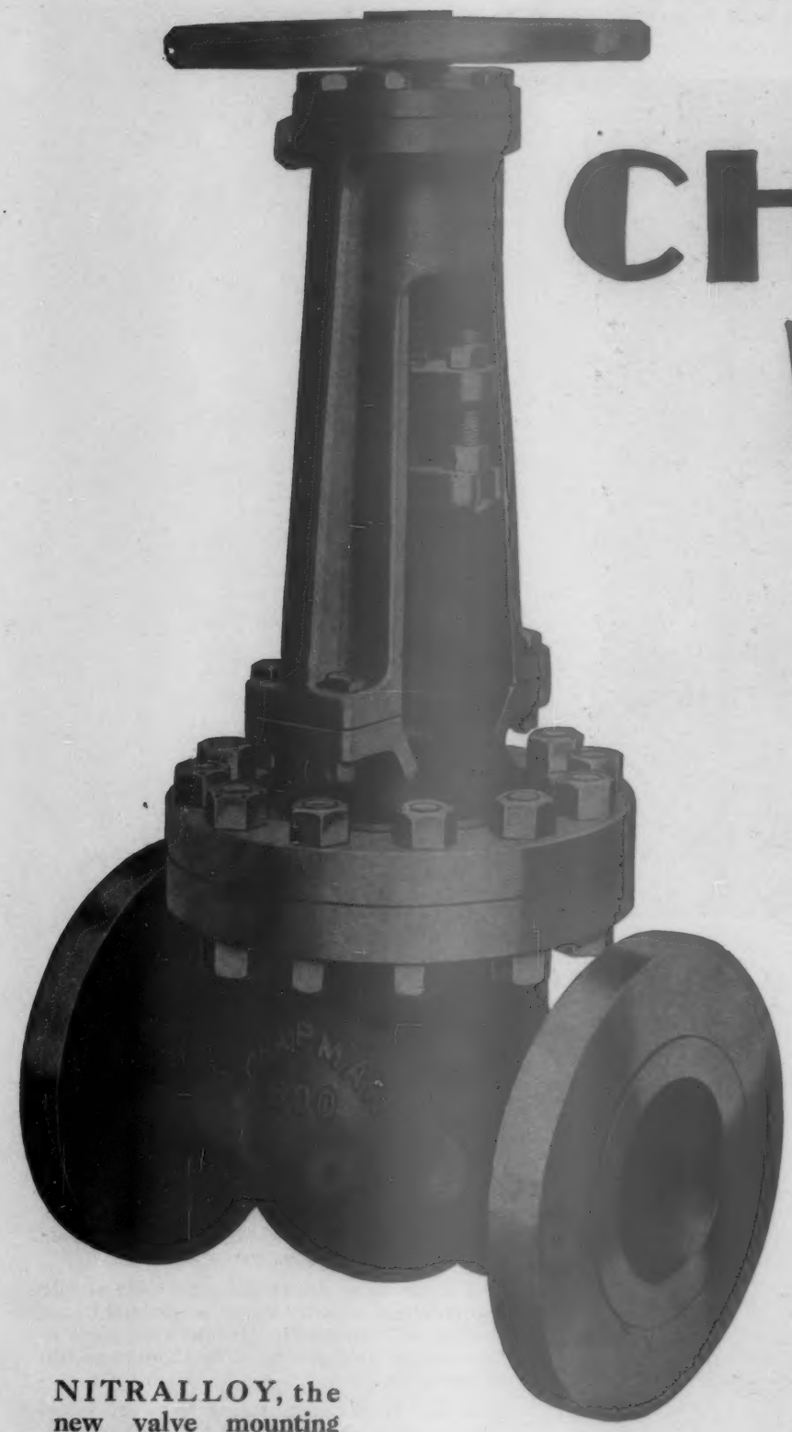
"It's a tough job—use a CHAPMAN Valve"



You will hear this statement at many refineries where difficult conditions are being discussed. Refinery engineers have learned to depend upon the sturdy design behind these valves, and the CHAPMAN Chrome Nickel Steel, (stronger than forged steel) which successfully meets highest temperatures and pressures.

In the field you hear the same story. The new CHAPMAN Drilling Valve, long steps ahead of previous development, is already making admirable records and an enviable reputation.

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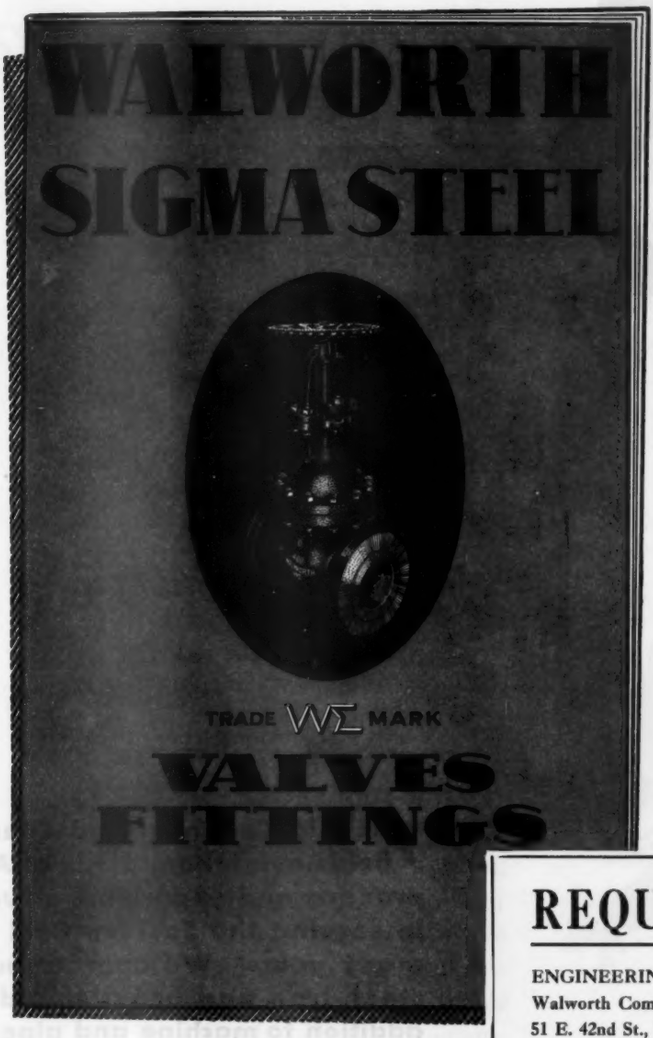

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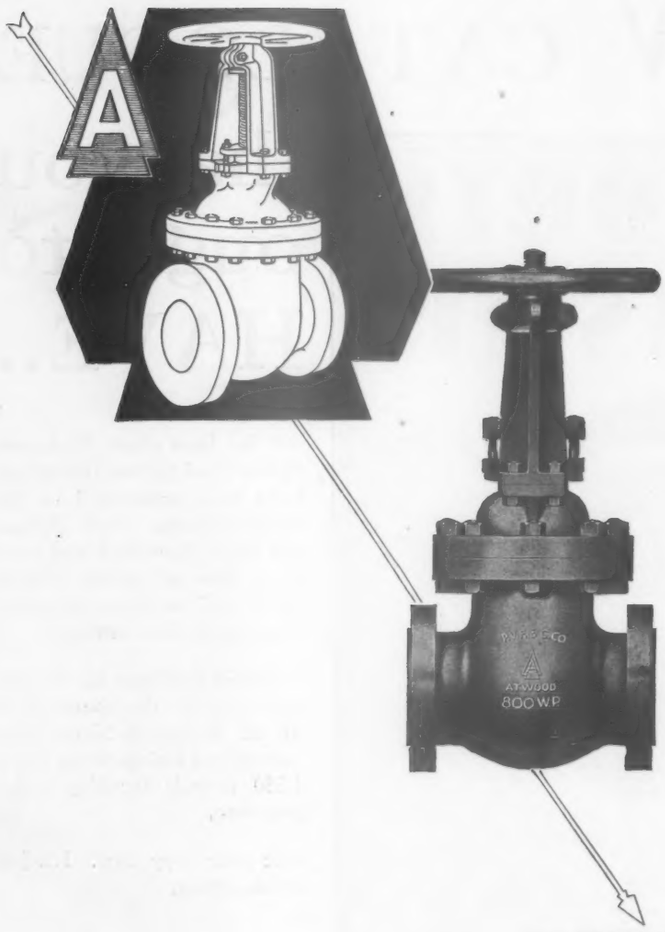
The Oil and Gas Journal, issued weekly by The Petroleum Publishing Company, 114-116 West Second Street, Tulsa, Oklahoma. Subscription price $6.00 a year; 15 cents a copy. Entered as second-class mail matter December 15, 1911, at the post office at Tulsa, Okla., under the Act of March 3, 1879.



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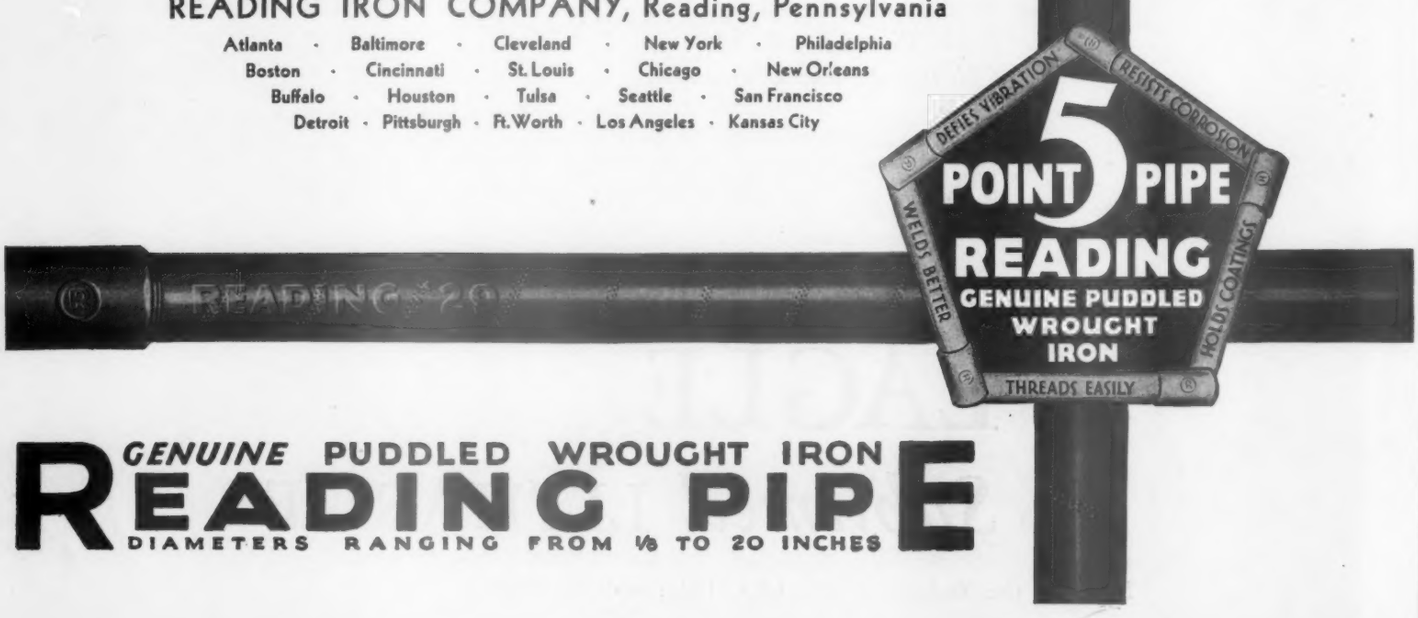

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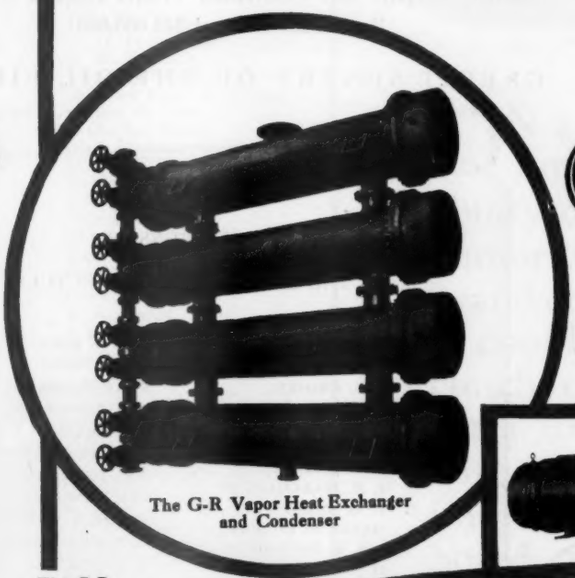

The G-R Vapor Heat Exchanger and Condenser

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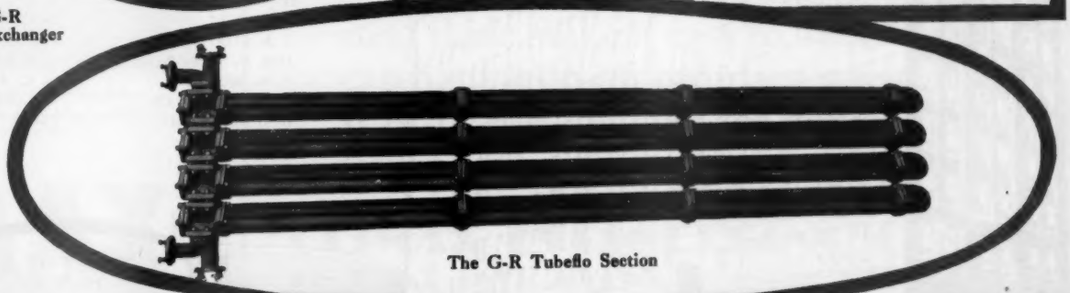

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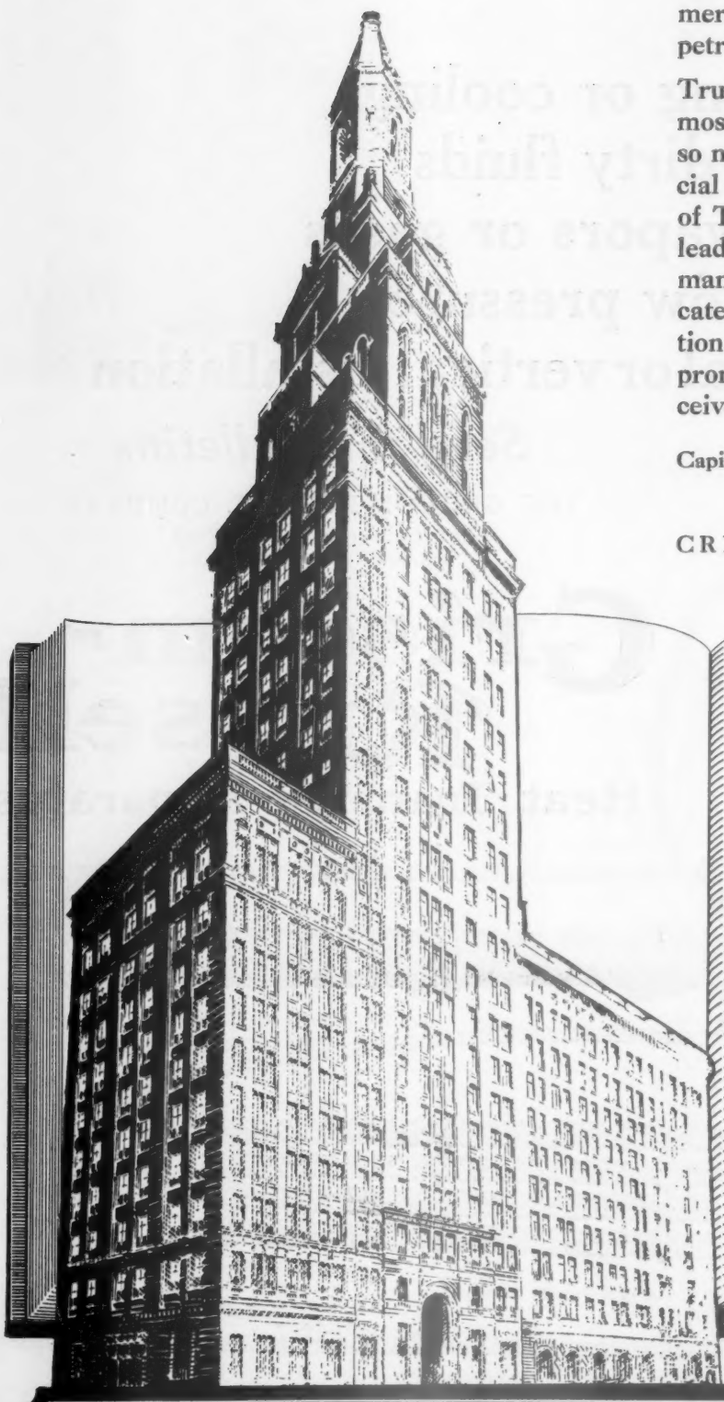

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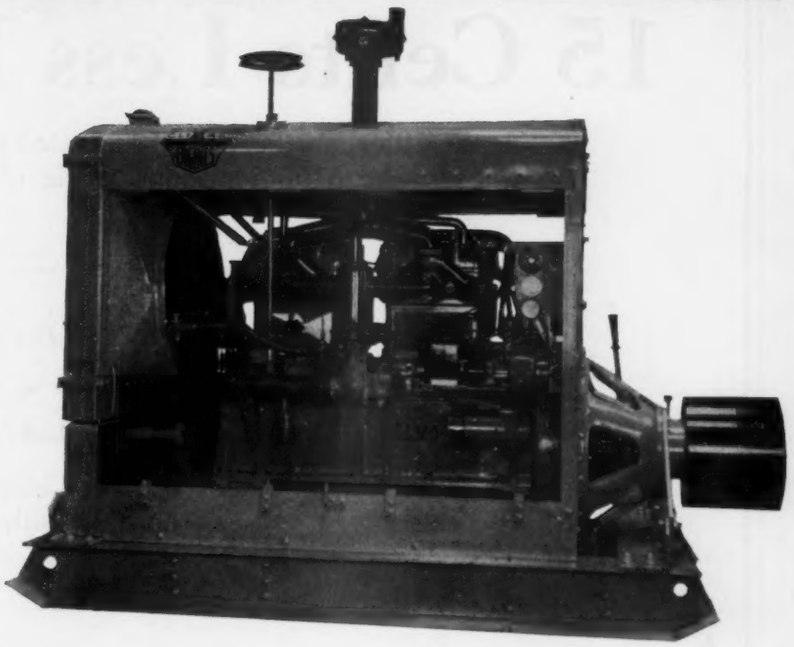
One of numerous Paymaster Jr. Portable Drilling Engines being used by Magnolia Petroleum Corp. in Texas



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Less than .003 sulphur

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91.5% OF THE INCREASE IN CRACKING CAPACITY

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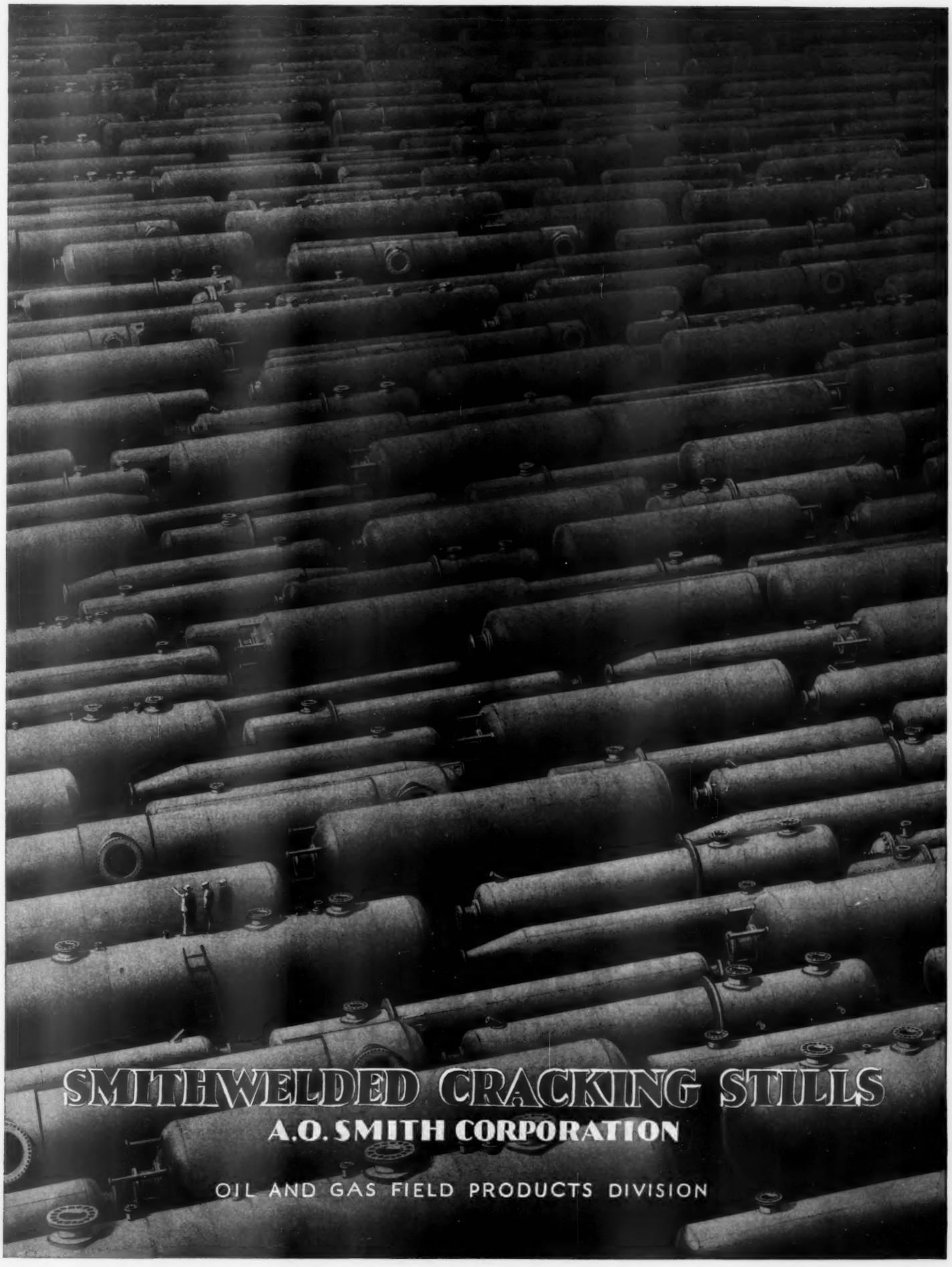
SMITHWELDED CRACKING STILLS
A.O. SMITH CORPORATION
OIL AND GAS FIELD PRODUCTS DIVISION

save time off stream

New Return Bend cuts cost of tube and cracking still operation

MANY TIMES NECESSARY STRENGTH IN YOKE ASSEMBLY WITH NO EXCESS WEIGHT

U-PIECE ONLY PART IN CONTACT WITH HOT OIL

NO IMPAIRMENT OF STRENGTH—NO COLD ROLLING AT TUBE BANK

SMOOTH STREAM-LINE FLOW REDUCES FRICTION SAVES POWER--KEEPS BEND FREE FROM COKE

RING JOINT WILL NOT LEAK, AND DOES NOT COKE TIGHT

REPLACEMENT OF TUBES SIMPLE MATTER OF ASSEMBLY NO DESTRUCTION OF GOOD TUBES

TUBE WARPAGE REDUCED TO MINIMUM

Time off stream costs real money in reduced production. Cut the "down" time and you get greater production at less cost.

With the new Stockham Fantz-Type Return Bend tube installation is speedy.

Easy, quick taking apart and reassembly cuts down time for cleaning coke from tubes. No coke deposits in Return Bend because of stream line flow.

Inspection, interchange and replacement of an individual tube are reduced to minutes.

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Stockham Fantz-Type Return Bends are now being produced in sizes used most extensively and can be manufactured to specifications to meet any working conditions.

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STOCKHAM
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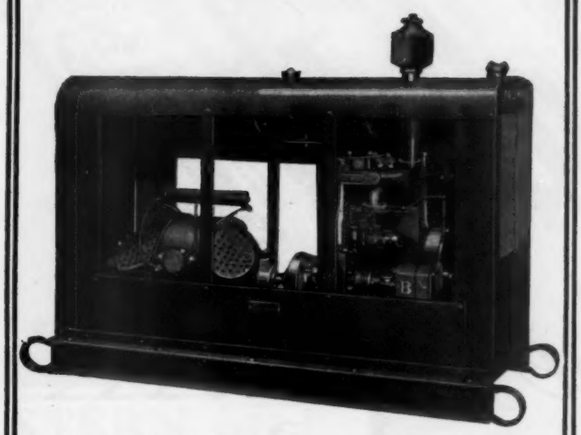
RETURN BEND

THERE IS A STOCKHAM FITTING FOR EVERY OIL REQUIREMENT
ELECTRIC CAST STEEL—CAST IRON—MALLEABLE

LIGHT
PLENTY OF IT



Novo Flud-Lite Lighting Unit used by the J. M. Brennan Drilling Company in drilling two wells to a depth of 3800 feet.

And Power Enough to Run a 2½-inch—3-inch Pressure Pump Besides

"In addition to the twenty lights we carried on this plant, we ran a 2½ in.—3-in. pressure pump—and at no time did the engine seem overcrowded."—J. M. Brennan Drilling Company.

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Standard Novo Timken Roller Bearing Engines assure an unbelievable freedom from trouble, repairs and replacements.

The engine, generator, enclosed terminal boxes, quick break switch and fused terminals for the line wires — are all located inside the steel lock up housing.

And one gallon of gasoline is all that's needed to generate 1000 Watts for eight hours.

Capacities range from 1¾ to 5KW.

NOVO ENGINE COMPANY, 240 Porter St., Lansing, Michigan
Clarence F. Bement, Vice-Pres. and Gen. Mgr.

NOVO
Flud-Lite Lighting Units

Sold and Serviced by National Supply Company

NOVO ENGINE COMPANY,
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Please send me the special folder and prices on the new Novo Flud-Lite Lighting Units.

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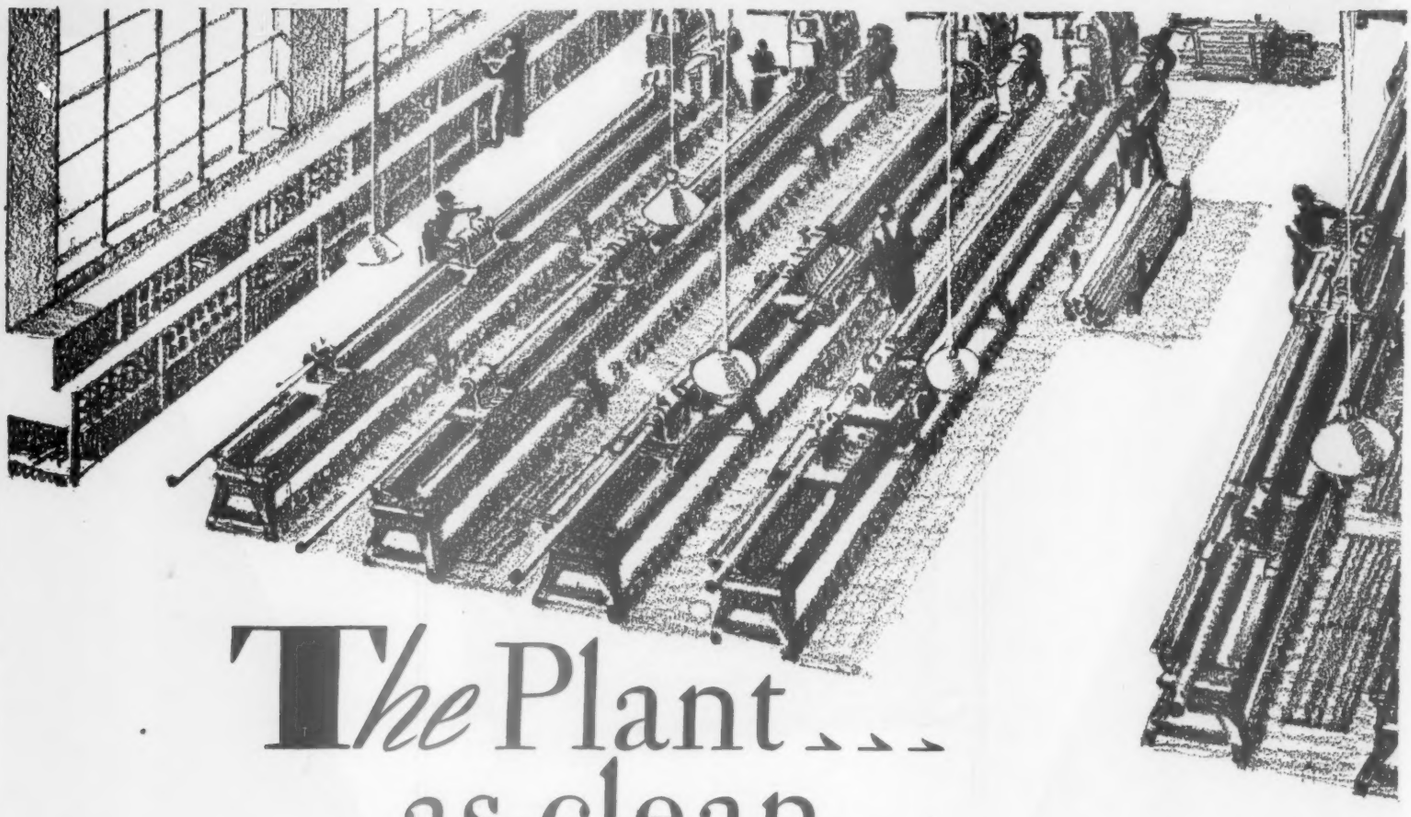

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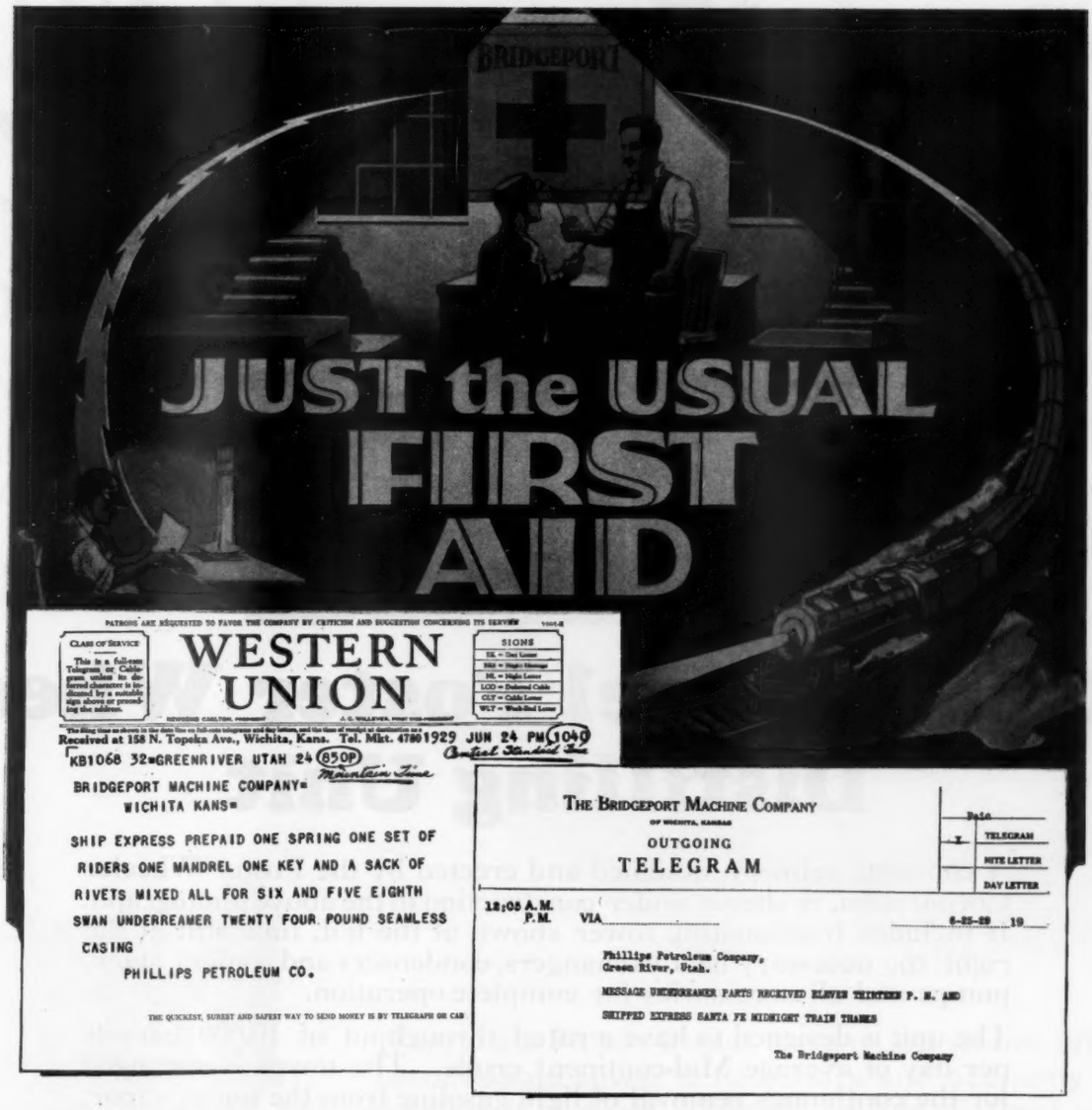

At 11:13 p.m. the wire arrived. 47 minutes later the shipment left on the fast midnight express. *Less than an hour's time was required by Bridgeport to meet the emergency.*

Phillips knew when they wired for "First Aid" what to expect from Bridgeport. Hundreds of others know of the USUAL, unusually fast service Bridgeport gives EVERY order. They know from experience that Bridgeport Never Fails.

There's a Bridgeport store near every principal oil field. Telephone calls or wires accepted collect, day or night. Your orders will always receive quick attention.

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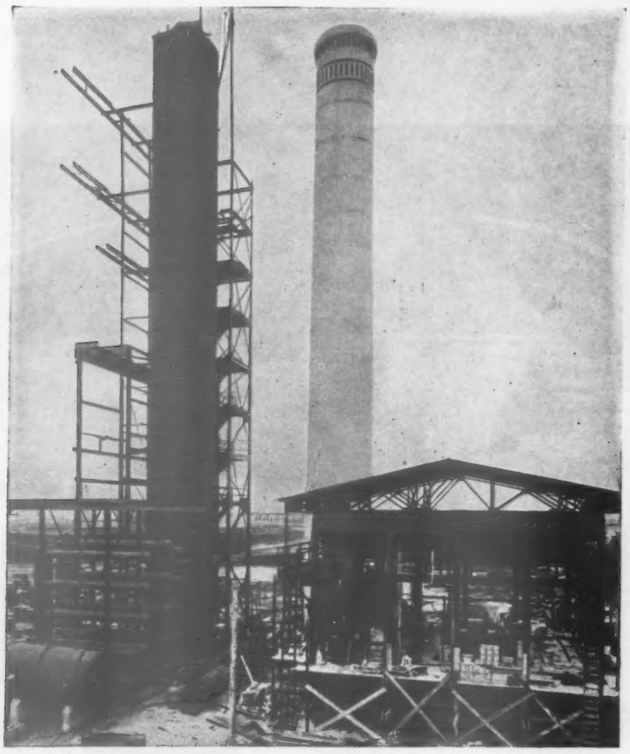
Branches Throughout The Oil Fields



A 10,000 Barrel Foster Wheeler Distilling Unit

A complete refinery, designed and erected by the Foster Wheeler Corporation, is shown under construction in the above photograph. It includes fractionating tower shown at the left, tube still at the right, the necessary heat exchangers, condensers and coolers, stack, pumps and all accessories for complete operation.

The unit is designed to have a rated throughput of 10,000 barrels per day of average Mid-continent crude. The tower is arranged for the continuous removal of light gasoline from the top as vapor. The liquid side streams will be naphtha, kerosene, gas oil, pressable wax distillate and two lubricating distillates. Flux is removed from the bottom.

Special type Weir control valves in the tower assures maintaining side streams to specification, regardless of variations in the operating conditions.

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DIESEL ENGINES

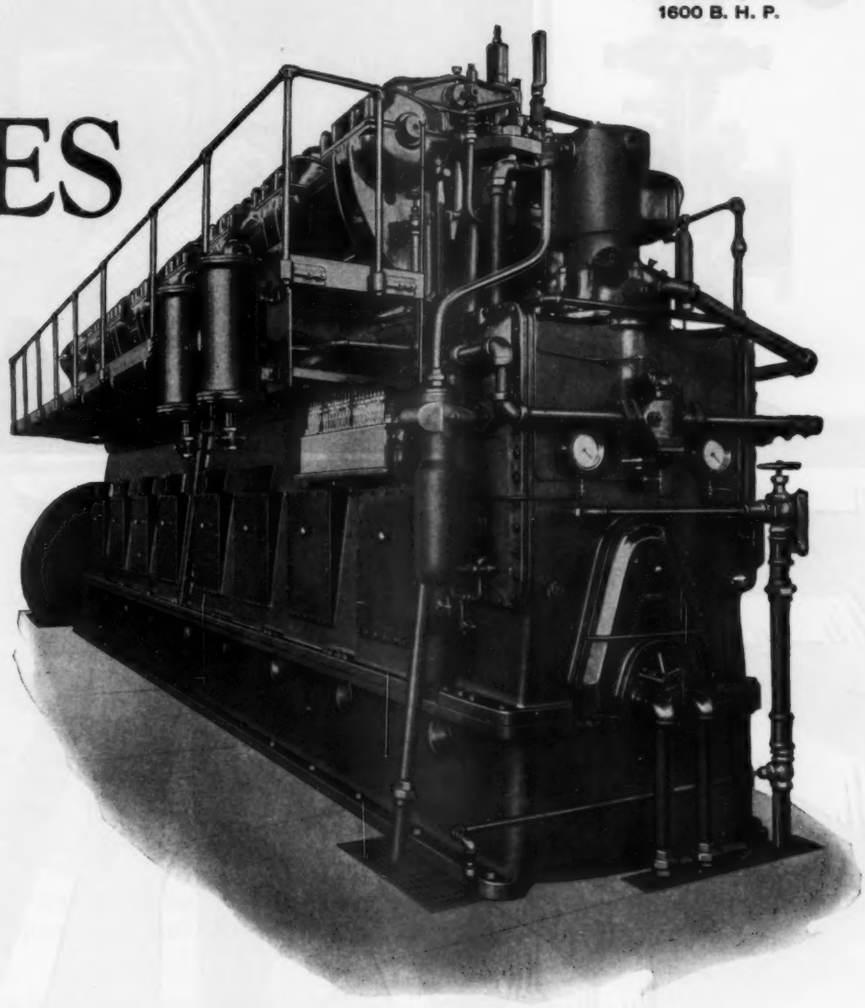
50-2000 H. P.

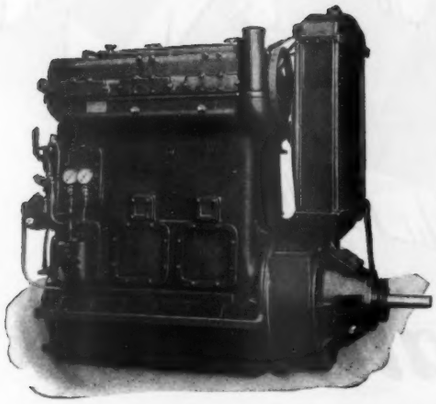
ANY SERVICE

STATIONARY

MOBILE

8-Cylinder, Type K
Fulton-Diesel, rated at
1600 B. H. P.





Fulton-Diesel Type L Engine
for Mobile Service.
Ratings of from
50 to 320 B. H. P.

There is a Fulton-Diesel for any job where efficient, dependable power is necessary and economy of operation is desired . . . from a 50 H. P. light weight, portable unit to a 2000 H. P. pipe line pumping engine or power plant prime mover.

Fulton-Diesels are economical, sturdy, and long-lived, and are built to give the same steady, willing service under overloads that they give under normal conditions.

Investigate the many economies of the Fulton-Diesel. Write for complete literature.

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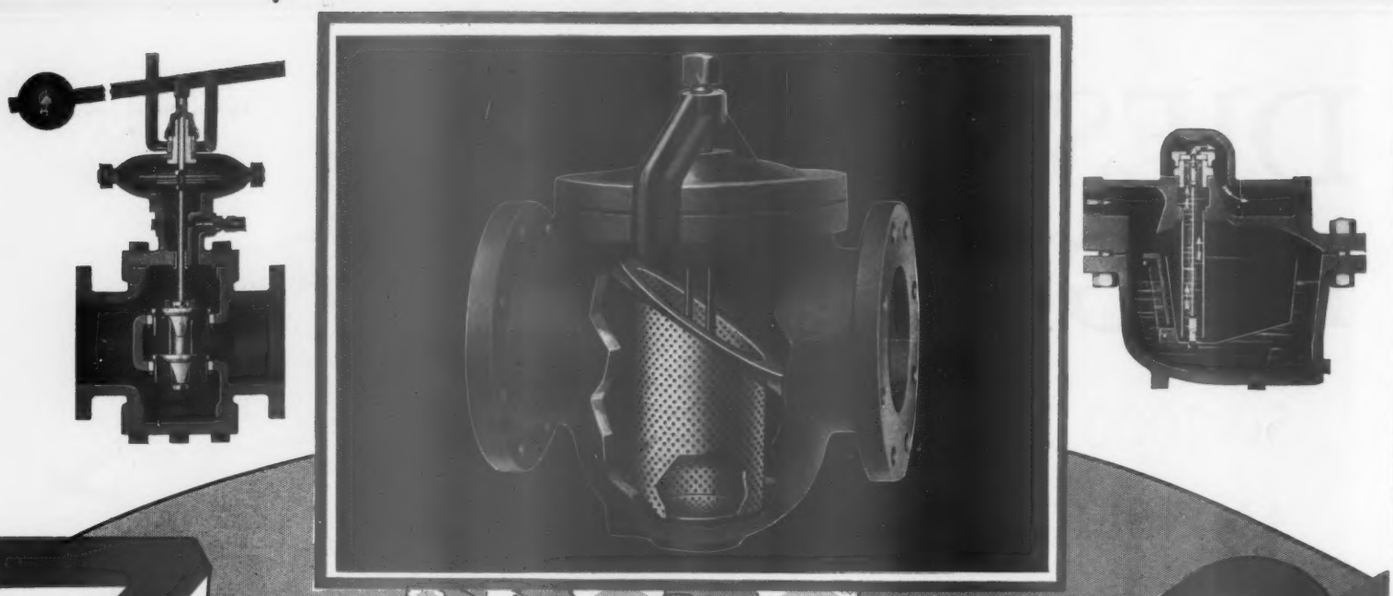
FULTON DIESEL



McALEAR

Oil Field Specialties

Protect Your Gasoline Plants, Pipe Lines and Pumps by Installing McALEAR Strainers

IN GASOLINE PLANTS—Pieces of Packer rubber from the wells, pipe cuttings and other foreign matter often cause damage and expensive shut-downs by cutting or lodging under field separator float valve seats, thereby allowing crude oil to enter the wet gasolines while gas passing into oil flow line is wasted.

Likewise pipe cuttings, sand and other foreign matter frequently cause delay and shut-downs and expensive re-lining jobs when they are allowed to get into pump cylinders or impellers.

That's why it pays to install a good, dependable suction strainer —A McALEAR Strainer—with its large free-area, rugged basket of open or closed bottom type, with clamped or bolted cover, with sturdy construction for all operating pressures, is an effectual barrier—proved by thousands of installations—to all scoring or clogging agents. Install them at the well ahead of the "trap" and in the plant in pump suction line.

It will pay you to standardize on McAlear Strainers and on all McALEAR equipment for level or pressure control. They are all described fully in our 128-page text book. Send for your copy today.

OIL INDUSTRY REPRESENTATIVES

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B. V. Emery Co., Inc.
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THE McALEAR MFG. CO.
1903 S. Western Ave., Chicago, Ill.

STOCKS FOR IMMEDIATE SHIPMENT TO ALL OIL FIELD POINTS ARE MAINTAINED AT
Los Angeles Tulsa Chicago

McALEAR

ACME
TAKES THE FINAL STEPS

1 ROLLER BEARINGS

2 COMPLETELY ENCLOSED

SINCE the early days of Acme Steam Engines each year has seen new refinements and the achievement of greater dependability.

Today, Acmes embody the final major steps—roller bearing crankshafts and complete crankcase enclosure. The first step gives an amazing response of power at the slightest touch of the throttle. The second assures that every working part, as it runs in a bath of oil, will go through the severest service and still be good for more.

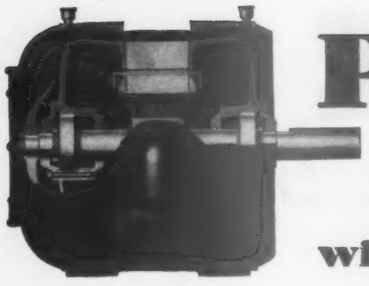
THE TITUSVILLE IRON WORKS CO.
TITUSVILLE, PENNA.

For Export
The Continental Well Supply Co.
72-76 Trinity Court
New York City, N. Y.

Distributors
The Continental Supply Co.

For California
California Machinery Supply Co.
2449-55 Hunter St.
Los Angeles, Calif.

TITUSVILLE
12"X12" ROLLER BEARING
STEAM ENGINES



Permanent Protection

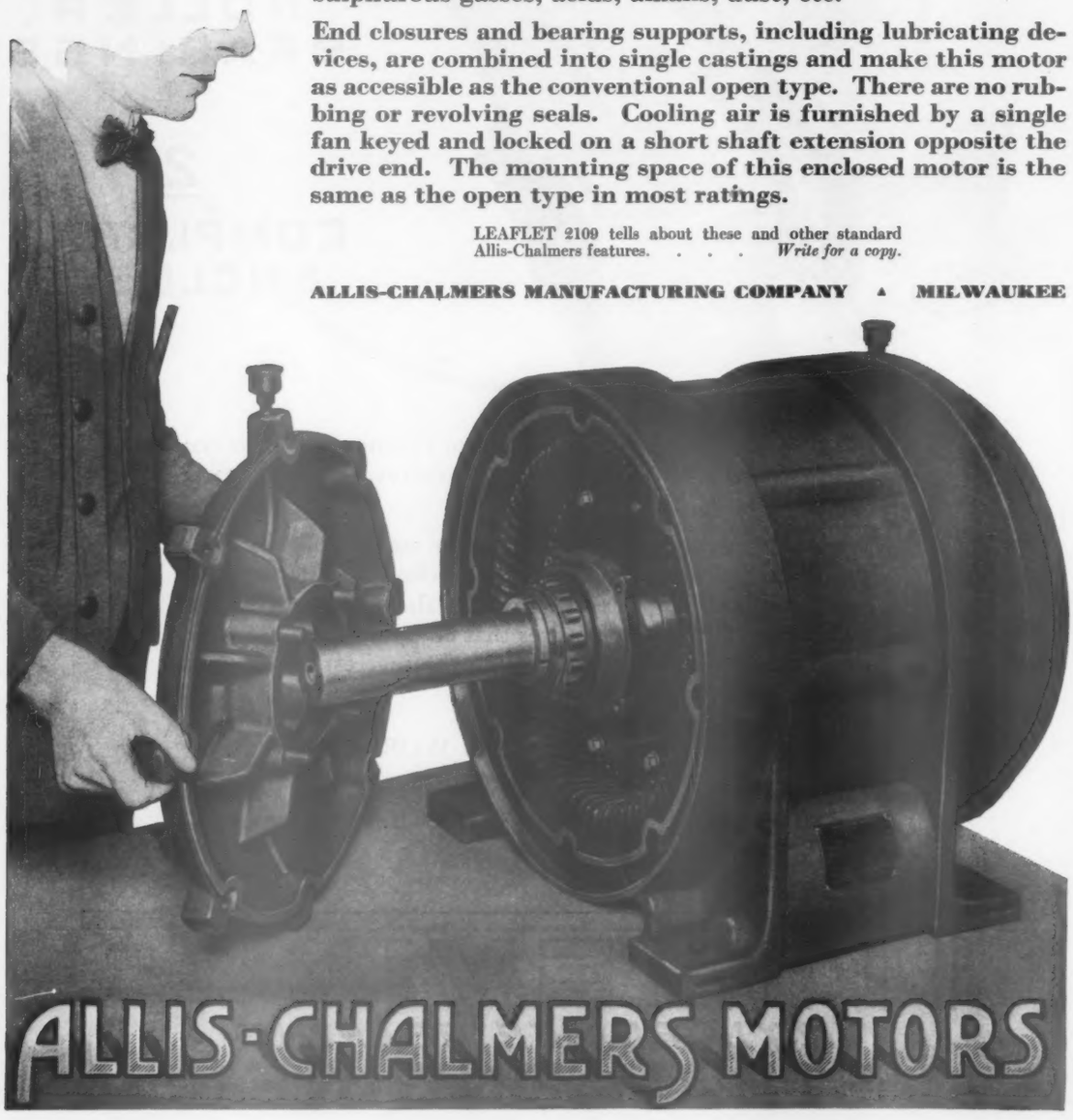
without sacrificing accessibility

. . . that was the thought in mind when the Allis-Chalmers type "ARZ" motor was developed. The active parts of this motor are completely enclosed, protecting the stator windings and the rotor — those parts that are subject to injury — from sulphurous gasses, acids, alkalis, dust, etc.

End closures and bearing supports, including lubricating devices, are combined into single castings and make this motor as accessible as the conventional open type. There are no rubbing or revolving seals. Cooling air is furnished by a single fan keyed and locked on a short shaft extension opposite the drive end. The mounting space of this enclosed motor is the same as the open type in most ratings.

LEAFLET 2109 tells about these and other standard Allis-Chalmers features. . . . *Write for a copy.*

ALLIS-CHALMERS MANUFACTURING COMPANY ▲ MILWAUKEE



Good for Another Deep Hole

This old Yellow Strand Line has already handled the casing in two holes. It stretched 24 inches while pulling 2200 feet of 6¼-inch casing. And was still in good condition after that.

Elastic-strength accounts for the remarkable vitality of Yellow Strand Rotary Drilling Line. Flexible, too; bears up under high-speed bends over sheaves and drum. Time saved is money saved. Specify Yellow Strand Rotary Drilling Line.

Write for Catalog K-2

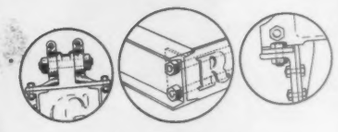
BRODERICK & BASCOM ROPE CO.

St. Louis, Mo.

Branches: 68-70-72 Washington St., New York, and Seattle, Wash.
Factories: St. Louis and Seattle

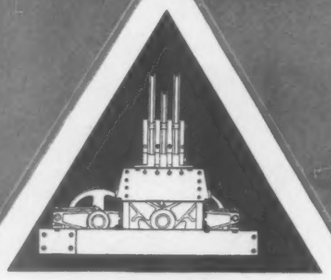
KR361

Yellow Strand Rotary Drilling Lines



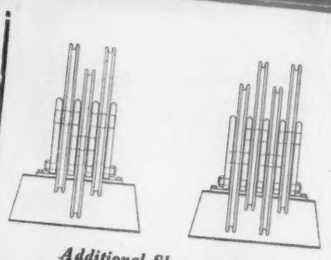
Solid Beam Bracing

The lower, intermediate and top beams are rigidly braced, preventing the slightest distortion of any part of the assembly regardless of load applied.



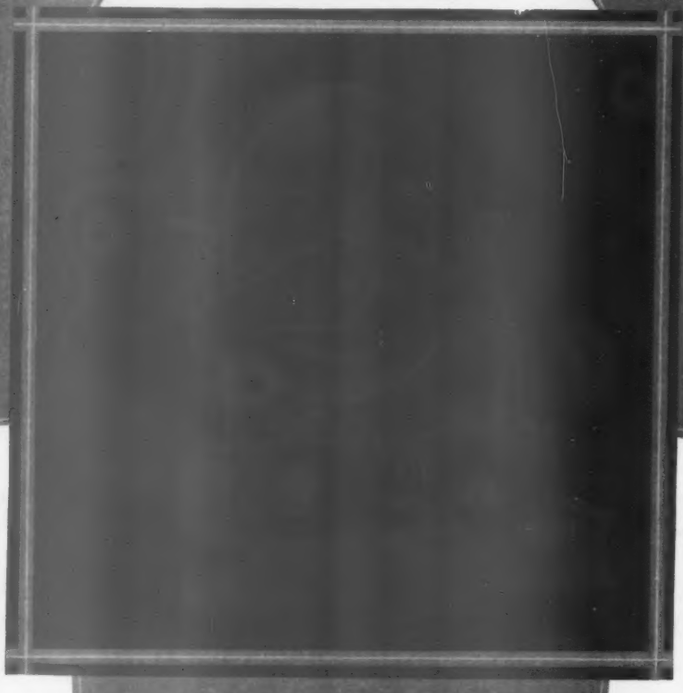
Pyramid Rigidity

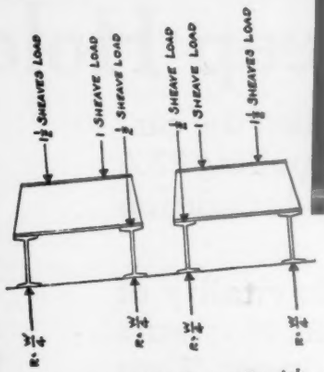
Both the beam assembly and the bearing construction offer the highest engineering development in rigidity and stability.



Additional Sheave Added

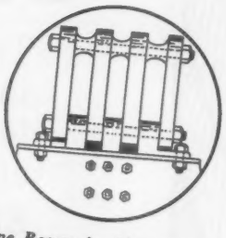
An extra sheave may be added by simply moving over the three top beams and installing another beam to extra sheave.





Equalized Load on Derrick

The four legs of the derrick carry an equal load because of the equal distribution of the load over the Crown beams.



Sheave Beams in Alignment

The large sheave separators are mounted on 2" pins instead of directly upon the top beams, permitting exact alignment.

THE RIGID REGAN CROWN BLOCK

[TYPE A]

Meets the Deep Drilling Demands. Greater Speed. Longer Life.

Regan

Forge & Engineering Co.

Oil Field Equipment

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501-2 Marvin Building

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2420 W. 21st St.

Ft. Worth, Texas
P. O. Box 444

Maracaibo, Venezuela
Wm. Adams, care Amer. Consul

Franklin Valveless Oil and Gas Engines

Some of the Franklin OF Good Points

Enclosed type.
Simplicity.
Low fuel consumption.
No special tools required.
No special threads used.
Extremely heavy crank.
Counterbalance on crank.
Hollow crosshead pin fitted with crosshead on a taper.
Metallic Packing on piston rod.
Removable shells in all bearings.
Very accessible.
Steel crosshead with adjustable bronze shoes.
Piston rod flanged and bolted to piston.
Air cooled piston.
Cylinder head jacket easily cleaned.
Cylinder has three point force feed lubrication.
Most economical to operate in fuel, lubricant, water and repairs.
Easy starting.
Least number of parts.

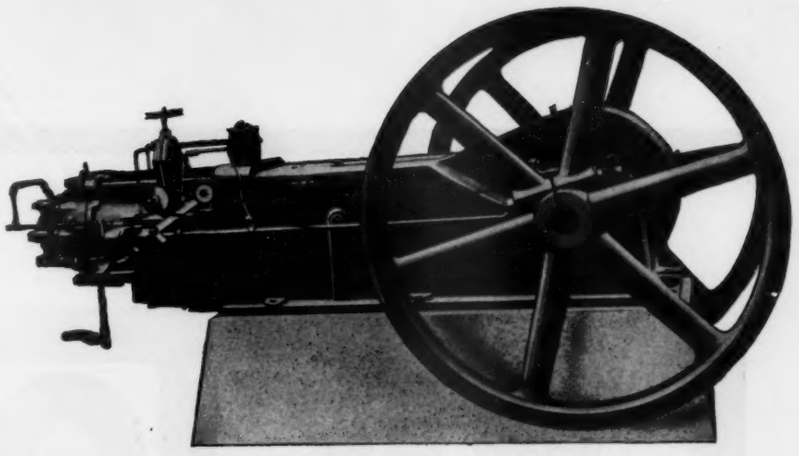
Type BG Clutch for Cable Tool Drilling or Pumping

A vast improvement over the former type of clutches.

Driven from pulley on engine. Permits the use of a larger diameter pulley and makes possible a slower clutch speed. Operates by hand lever on derrick.

Construction and design prevent Reverse Clutch Troubles.

PRICE—$1200.00 F.O.B. Franklin, Penna.



The A. P. I. Demanded Standardization Franklin Engines Give It

We believe standardization means economy—in both money and effort.

In the new and improved Franklin Oil Engine, identified as Type OF, each of its three sizes are made interchangeable as to foundation. Finish with the drilling engine—then move in the smaller pumper without changing so much as a bolt hole.

All Franklin Valveless 16″ stroke engines are interchangeable on the same block.

No loss of time, expense of new block or trouble. Practical economy for the operator—sufficient certainty to specify to the drilling contractor that he drill with a Franklin.

Even without this feature, advantageous as it is, the Franklin Valveless Engine stands as an achievement in performance, simplicity and economy. Operators who have seen this new type OF believe it to be an unusual advance in Internal Combustion Engines.

Where gas as fuel is available, specify Type OG. Incidentally, the OF Engine is readily converted into this OG type at very little trouble or expense.

Franklin Valveless Engine Company
Franklin, Penna.

PRICES

12 x 16 Type OF Franklin, including water circulating pump and pulley. *$1550 F.O.B. Franklin*

13 x 16 Type OF Franklin, including water circulating pump and pulley. *$2050 F.O.B. Franklin*

16 x 16 Type OF Franklin, including water circulating pump, pulley and air starting equipment. *$3200 F.O.B. Franklin*

NOTE—Type OF is readily converted into type OG for gas fuelization.

Distributed by

OIL WELL SUPPLY COMPANY

Branches in All Oil Fields

VICTOR

FOR WELDING

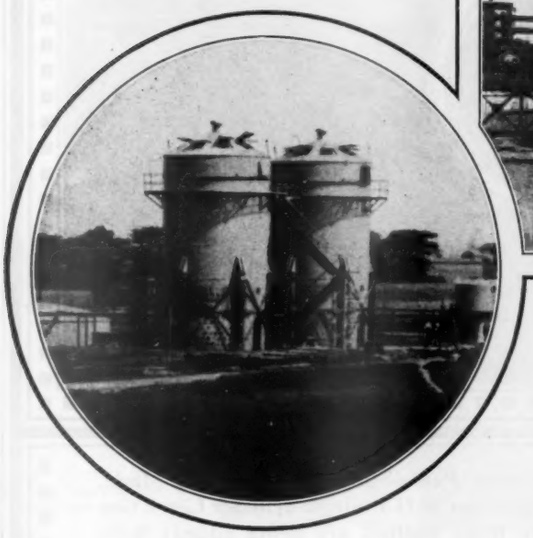
TORCHES REGULATORS

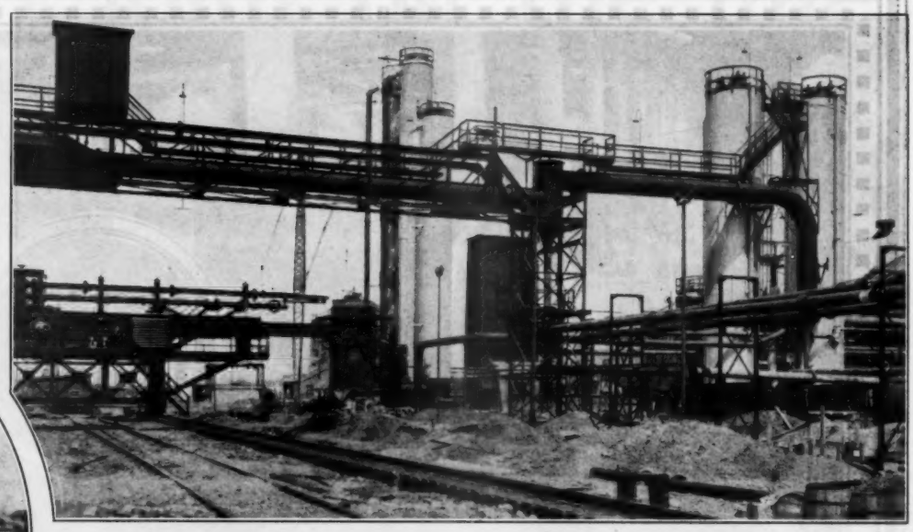
VICTOR WELDING EQUIPMENT CO

844 FOLSOM ST. SAN FRANCISCO CALIF.

I.P.M.

After serving satisfactorily at the Cushing, Oklahoma, plant of a large refiner, these ARMCO Ingot Iron agitators were moved to its Wood River (Illinois) plant, where they continue their good service.





These huge cooling towers at the plant of the Hamilton Coke and Iron Company, Hamilton, Ohio, are built of ARMCO Ingot Iron Plates, electrically welded. Pure iron was chosen because of its demonstrated long service in this severe duty.

Refiners get longer service from their ARMCO Ingot Iron equipment

REFINERS who have experimented with all kinds of metal equipment invariably find greater savings with ARMCO Ingot Iron.

Among them is the National Refining Company, who write: "We have several thousand feet of ARMCO Ingot Iron pipe in our condenser coils. Some of this pipe has been in service 3 or 4 years and has not given us any trouble. Where we used steel pipe, two years was its approximate life, so you can see that we have obtained about 100% more service from the ARMCO Ingot Iron pipe."

The Champlin Refining Company tells of its experience with ARMCO Ingot Iron pipe, used for transferring diluted acid oils from treating agitators.

"Where we formerly used standard steel pipe, renewals were necessary about every thirty days. Some of the ARMCO Ingot Iron pipe has been in service from eight to ten months and apparently the pipe is still in good shape."

Wouldn't such savings be worthwhile to you? Tanks, agitators, weak acid towers, pipe, tubing, coolers, condenser boxes—these are some of the places where the unusual corrosion-resistance of ARMCO Ingot Iron makes it especially economical.

Call in an ARMCO Development Engineer. Tell him your particular problem. He'll show you savings if savings can be achieved. The office nearest you offers its services.

THE AMERICAN ROLLING MILL CO.
Executive Offices, Middletown, Ohio
Export: The ARMCO International Corporation
Cable Address—ARMCO, Middletown (O)

DISTRICT OFFICES

Chicago	Detroit	Pittsburgh
Cincinnati	New York	St. Louis
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ARMCO INGOT IRON RESISTS RUST

Plant of Amerada Petroleum Corporation at Maud, Okla., showing eleven 80 H.P. single cylinder Clark Gas Engines. Five more engines are being added; K-W equipped, of course.

THE WHOLE STORY OF THE

TRADE K-W MARK Magneto

IS TOLD IN SEVENTEEN WORDS

"A GIANT FOR POWER
A BRUTE FOR ENDURANCE—
PREDOMINATION IN THE OIL
FIELDS FOR TWENTY ONE YEARS"

MODELS FOR EVERY TYPE OF ENGINE

MANUFACTURED BY
THE K-W IGNITION CORP.
CLEVELAND, OHIO, U.S.A.

OKLAHOMA-TEXAS REPRESENTATIVES
MAGNETO IGNITION CORP.
306 E SECOND STREET
TULSA, OKLAHOMA

"For Every joint on the line" Victaulic Couplings

This 10" gasoline line in Oklahoma weaves but it does not leak.

20" sand and gravel line, Toledo, Ohio.

Oil field gathering lines in South America.

FOR speed, ease and economy in the installation of pipe lines, Victaulic Couplings set new standards for time and money—for freedom from leaks during the life of the pipe.

The ease of disconnecting any length without injury to pipe or coupling—the flexibility of every Victaulic Coupling and the fact that each Victaulic Coupling is an expansion joint for the lengths it connects—are features of Victaulic-coupled lines which afford unusual advantages.

Victaulic Couplings give four times the ordinary life to the 20" pipe used for pumping gravel to settling pits under water pressure. The Victaulic Couplings are loosened and the pipe given a quarter turn. This enables the heavy wear on the bottom of the pipe to be distributed to all parts before the lengths have to be discarded and renewed.

Victaulic Couplings and Fittings are supplied in all sizes from ¾ inch up—for steel, wrought iron, spiral weld and cast iron pipe—for all pressures.

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26 Broadway New York

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All-purpose pipe couplings

"For every joint on the line"

FLEXIBLE LEAK-PROOF
VICTAULIC
REG U S PAT OFF
PIPE COUPLINGS

For detailed information on uses, users, installations, sizes, prices—write or mail this coupon.

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Please send Victaulic Bulletin No. 1

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City.....

FOR CRUDE OIL, GAS, WATER, SEWAGE, COMPRESSED AIR, ETC.

Air Lift

Quickly Installed with

Electric Power

ELECTRIC POWER Driven Compressors have been installed over-night in a great many cases, thus giving the operators at least fifteen days additional production in comparison with the more cumbersome method of building foundations and moving engines. The importance of this quick installation cannot be stressed too strongly. The ease and short time required to install motors on a well after it reaches the sand are the deciding factors in favor of ELECTRIC POWER.

In cold weather when the water and gas lines freeze—electric driven equipment holds up normal production much better than the older method.

Notice the names of our branch Commercial Department officers. Without obligation, you are urged to talk things over with our nearest representative.

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O. A. Jennings, Mgr.

Oklahoma City Office - F. P. Hays
Ardmore Office - - - - J. G. Cronin
Muskogee Office - - - W. H. Steuve
Sapulpa Office - - - - James Tussey
Enid Office - - - - - V. H. Kershner

OKLAHOMA GAS AND ELECTRIC COMPANY

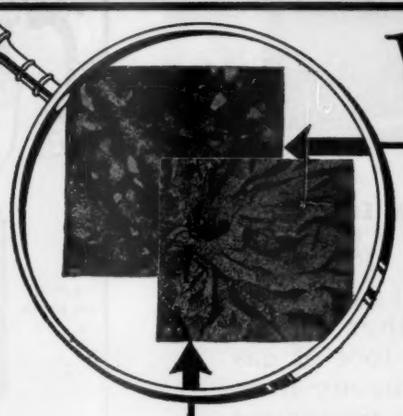
J. F. Owens, Vice President and General Manager

BYLLESBY — OKLAHOMA GAS AND ELECTRIC COMPANY — PIONEERS IN PUBLIC SERVICE

Courteous, Personal Attention to Every Customer

One of a series of advertisements showing what ELECTRIC POWER has done.

COOK'S GRAPHITIC IRON PISTON RINGS



Why?

Are an ever increasing number of the leading Builders and Operators of Gas, Diesel Engines and Gas Compressors adopting Piston-Rings of "Cook's Graphitic Iron"

ORDINARY PISTON RING IRON

Brinell hardness 180 and higher, usually harder than cylinder.

Free Carbon low (2.80% and under) represented by black areas.

Combined Carbon high (.60% and over).

Carbides (isolated white spots in irregular shaped areas) are present in abundance with other impurities that dislodge and act as an abrasive, causing cylinder scoring and wear.

Carbon found in annealed rings is in a form free of natural lubricating properties.

COOK'S GRAPHITIC IRON

Brinell hardness 120 to 160 and softer than cylinder.

Free Carbon content very high and uniformly distributed in the form of Free Graphite in a Pearlitic Matrix.

Combined Carbon low (.40% and under).

COOK'S GRAPHITIC IRON is free from Carbides or all hard spots and impurities which would dislodge or act as an abrasive, causing cylinder scoring and wear.

The natural Graphite itself helps to lubricate and retains the oil lubricant.

Durability averages 400% greater, cylinder wear correspondingly reduced.

TO guarantee obtaining the genuine on new equipment specify by name:

"COOK'S GRAPHITIC IRON PISTON RINGS"

FOR engines in use stock carried in Tulsa and Los Angeles. See our service man or address Home Office.

NEW YORK CITY	TULSA, OKLAHOMA	LOS ANGELES
13 Astor Place	W. Woobank	Morgan Washburn, Jr.

WRITE FOR BULLETIN

C. LEE COOK MANUFACTURING CO.

INCORPORATED

LOUISVILLE, KY.

"LONGER LIFE - LESS CYLINDER WEAR"

Consumer Satisfaction Demands the Best Equipment in Regulators and Meters

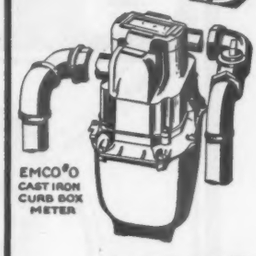
HOTELS consume large quantities of gas in their kitchens, heating plants and in other departments such as laundries. Every cubic foot of gas used must be measured or the gas company loses revenue. The pressure must not vary no matter what conditions may be.

A Texas gas company relies on the EMCO High Pressure Regulator and the EMCO Number Four Large Capacity Gas Meter equipped with an EMCO Combined Record Gauge (for pressure correction) pictured above as its cash register on this service.

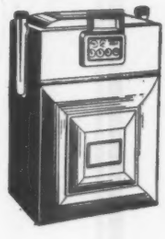
EMCO—*wherever you go*

EMCO #0 CAST IRON DRY GAS METER

IRONCLAD CAST IRON DRY GAS METER

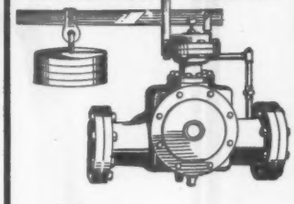


EMCO #0 CAST IRON CURB BOX METER

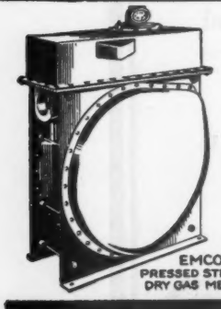


EMCO TIN METER

EMCO HIGH PRESSURE BALANCED VALVE REGULATOR

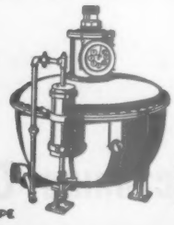


EMCO WATER HEATER AND GAS APPLIANCE REGULATOR



EMCO #5 PRESSED STEEL TYPE DRY GAS METER

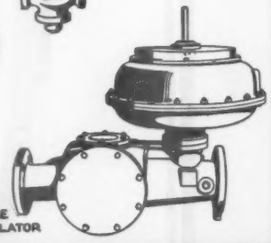
WESTINGHOUSE FLUID POSITIVE GAS METER



EMCO LARGE CAPACITY CAST CASE DRY GAS METER WITH EMCO COMBINED RECORD GAUGE

EMCO ORIFICE GAS METER

EMCO DOMESTIC SERVICE REGULATOR



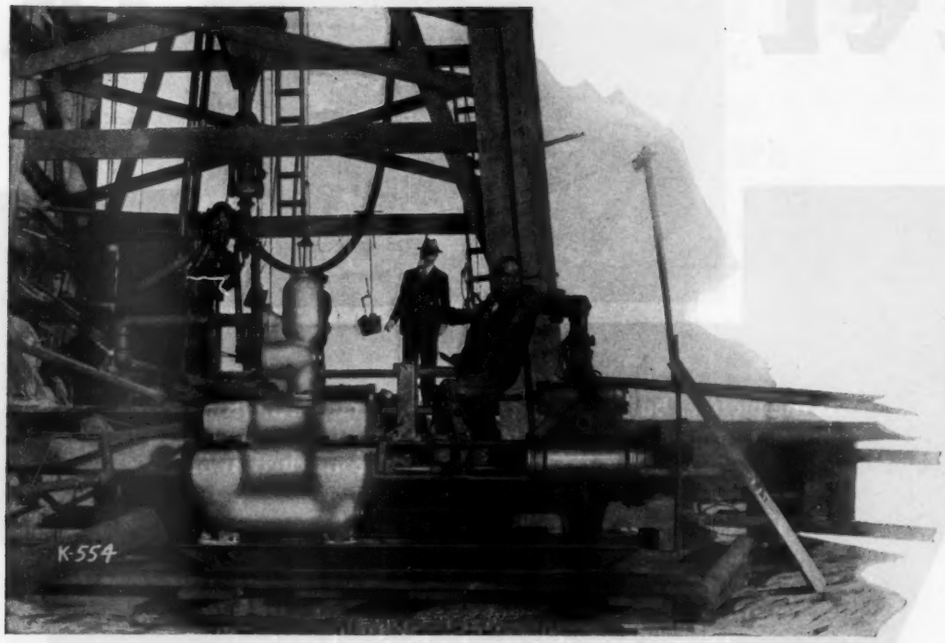
EMCO LOW PRESSURE BALANCED VALVE REGULATOR

PITTSBURGH EQUITABLE METER COMPANY

MAIN OFFICE AND WORKS PITTSBURGH, PA.

NEW YORK CHICAGO COLUMBIA, S.C. LOS ANGELES DALLAS
TULSA SEATTLE KANSAS CITY SALT LAKE CITY

Wilson-Snyder Long Stroke Slush Pumps hold their pace for low cost drilling!



No renewal of parts for over *two* years is the record of our balanced piston steam valves.

Slush Pumps worth their weight in economy.

WILSON-SNYDER

BUILDERS OF HEAVY DUTY PUMPS FOR OVER FIFTY YEARS

PITTSBURGH, PA U.S.A.

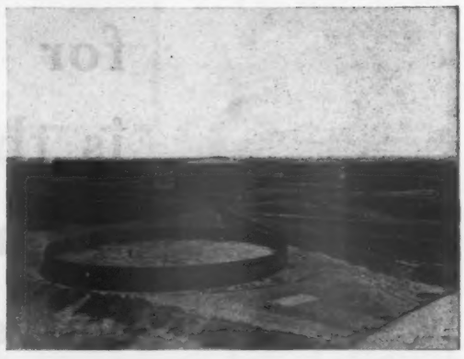
RITER CONLEY

STEEL TANKS

As the pioneer builders of oil storage steel tanks, the Riter-Conley organization is recognized the world over as one of the leading authorities on the design and construction of dependable oil and gas containers in any size.

The constantly increasing demand of the oil industry for Riter-Conley Tanks especially in the larger sizes led this company to adopt the policy of standardization—over a quarter of a century ago.

Then as now, this standardization has given to the oil industry the benefits of greater economy in construction and quicker service,—and as a result has been the basis of the American Petroleum Institute standardization program.



Riter-Conley Tanks of A. P. I. standard design as well as special tanks of our own design are always available for immediate delivery.

Back of this complete line of oil tanks is the service of an army of Riter-Conley erecting crews with complete erection equipment ready for any emergency.

When may we serve you?

RITER-CONLEY COMPANY · PITTSBURGH, PA.

Branch Offices in the Principal Cities

Steel Construction Specialists for over 70 years

STANDARD

Since 1828

SEAMLESS

CASING
TUBING
DRILL PIPE
(Regular and Heat Treated)
LINE PIPE
STILL TUBES

Sizes 2 inch to 13⅜ inch O. D.

ETNA

WELDED

CASING
STANDARD PIPE
LARGE O. D. PIPE
LINE PIPE
DRIVE PIPE
DRILL PIPE

Sizes ⅛ inch to 24 inch O. D.

SPANG, CHALFANT & CO., INC.

General Offices: CLARK BUILDING, PITTSBURGH, PA.

Sales Offices: CHICAGO, ILL. NEW YORK, N. Y. ST. LOUIS, MO. PITTSBURGH, PA. TULSA, OKLA. LOS ANGELES, CAL.
Welded Mills: ETNA, PENNA. SHARPSBURG, PENNA. *Seamless Mills:* AMBRIDGE, PENNA.

Baker Standard Core Barrel with Core Barrel extended partly to show construction.

"We regard the Performance of this Core Barrel as Quite Remarkable—especially considering Hardness of Formation being cored"

This, the comment of one of the enthusiastic users of the Baker Standard Core Barrel, is only one of many hundreds of similar expressions we have received after it had been submitted to the most difficult tests and had made good. The Baker Core Barrel eliminates all guessing about the formations being drilled —it brings the facts to the surface.

¶ THE CORE BARREL—

The Baker Standard Core Barrel consists of two main parts—an outer drilling barrel and an inner core-retaining tube, as shown in the illustration at the left. The superior performance of this Core Barrel is due to the valve shown in the head of the Drill Barrel. The Core Barrel is placed in the string in the same position as the bit, and is operated with a somewhat slower motion and shorter stroke than the drilling bit. It will withstand the most severe usage that can be given with this shorter stroke and slow motion. It will take uncontaminated cores in all formations, whether hard or soft.

¶ THE CORE EXTRACTOR—

The Baker Two-Stage Hydraulic Core Extractor is illustrated below, with the piston shown in the low pressure position. The simple half-turn throw of the catch engages the high pressure piston. The Sub is made with both male and female threads, for extraction of core from either end of Core Retaining Tube. The Core Pusher Plunger fits snugly in Core Retaining Tube. Tongs are also shown.

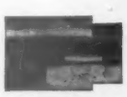
¶ THE CORE—

The illustration at the right, which is taken from the photograph of an actual core taken with the Baker Standard Core Barrel, shows the clean-cut, uncontaminated form in which the core is brought to the surface. The form in which the core is recovered depends, of course, on the character of the formation being drilled but, working under either easy or very difficult conditions, the Baker Standard Core Barrel will bring to the surface an accurate and dependable cross section of the formation.

Sample of cores taken with Baker Standard Core Barrel in formations which were too hard for coring with rotary core barrel.

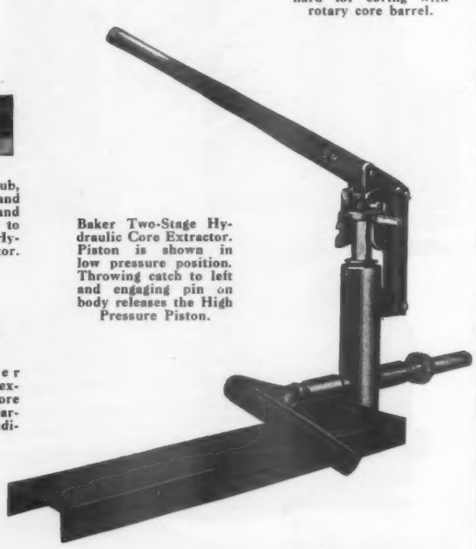
¶ ACCESSORIES—

For the proper and most efficient use of the Baker Standard Core Barrel we have designed certain necessary accessories, here illustrated. They promote the efficient use of the Barrel and the extraction of the core. For complete information regarding the ordering and use of this Core Barrel equipment request the detailed catalog section.

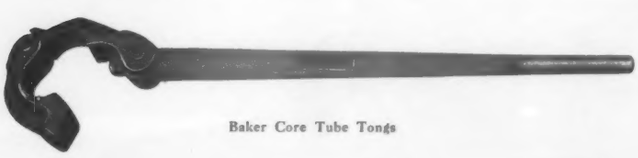


New style Sub, with both male and female threads and inner threads to connect with Hydraulic Extractor.

Core Pusher Plunger — for extracting the core from the Core Barrel in good condition.



Baker Two-Stage Hydraulic Core Extractor. Piston is shown in low pressure position. Throwing catch to left and engaging pin on body releases the High Pressure Piston.



Baker Core Tube Tongs

Baker Drill Barrel Tongs

Your Guess May Be Good—But Coring Means Positive Knowledge of Formations

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Expert Sales Office
25 Broadway, New York City

BAKER OIL TOOLS, INC.
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B. & A. SPECIALTY CO.
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Baker Standard Core Barrel is Universally Accepted as the Standard of Coring Performance

The Completeness of the Line Simplifies Selection

LUNKENHEIMER VALVES
AND
ENGINEERING APPLIANCES

Bronze, Iron, Steel and Anti-Acid Valves, in a wide range of patterns and sizes for all prevailing pressures and temperatures; gate, globe, angle, check, blow-off, non-return, pop safety and relief valves; lubricators, oil and grease cups, cocks, whistles, fittings, etc.

Lunkenheimer Distributors, with complete stocks, are located in all industrial centers. They will fill your requirements promptly.

The "Guide to Better Service" illustrates a complete line of Valves and Engineering Appliances, ingeniously arranged to simplify selection. A copy of this valuable book should be in your files. It will be sent upon request, without obligation.

Iron Body "Ferrenewo"

Bronze Regrinding

Bronze "Renewo"

Bronze Double Disc Gate

Bronze Regrinding Horizontal Check

Bronze Regrinding Swing Check

Iron Body Bronze Mounted Swing Check

Bronze Wedge Disc Gate

Bronze "Senior" Lubricator

Iron Body "Duro" Blow-off

Iron Body Pop Safety

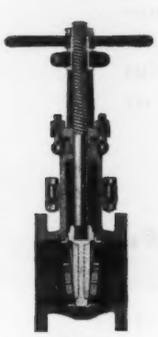
Bronze Pop Safety

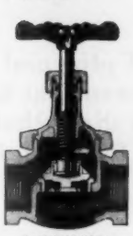
Iron Body "King-clip" Gate

Bronze "Ideal" Grease Cup

"Sentinel" Oil Cup With Sight Feed

Iron Body Gate


Anti-Acid Gate


Anti-Acid Globe

Iron Body Globe

Steel Globe

Steel Swing Check

Steel Gate

THE LUNKENHEIMER CO.
"QUALITY"
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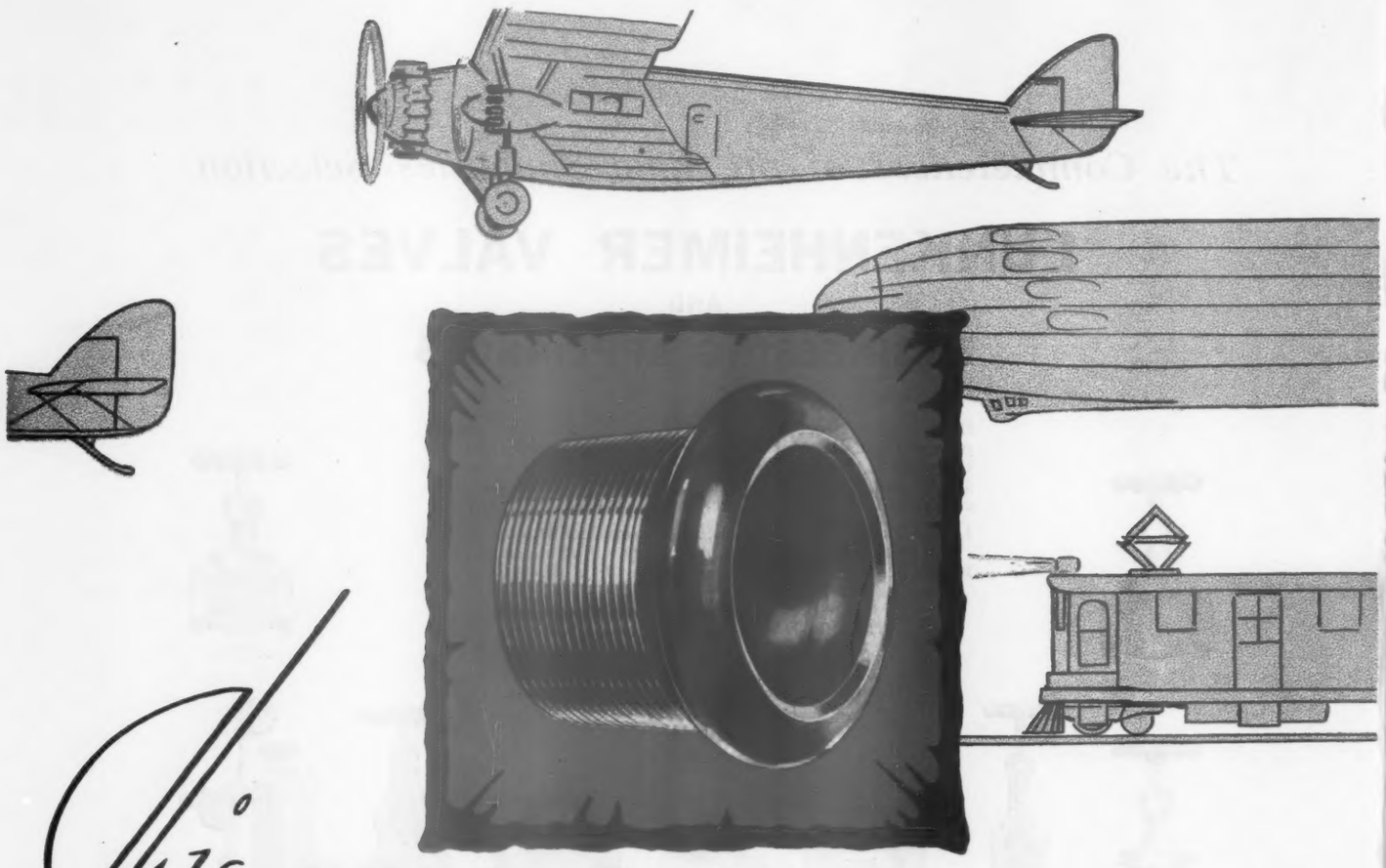


This IDEA belongs to a progressive efficient age....

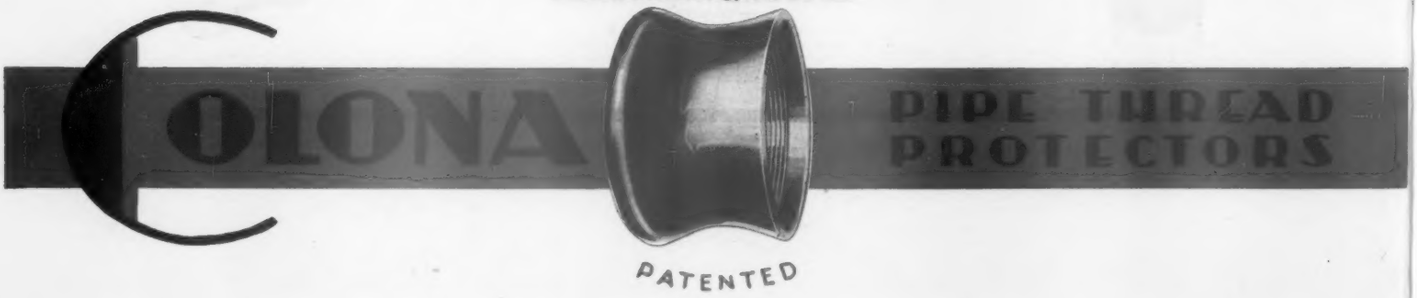
—Today, in the oil industry, time is precious—labor is costly—delays expensive—

The idea of protecting the vulnerable threads of pipe and couplings is modern—it means that the buyer is assured that he gets what he pays for—clean sharp threads—free of dirt—that joint up quickly, tightly, securely—without delays for cleaning or rethreading.

Insist on pipe and casing—Colona Protected—

Colona Manufacturing Co.

Pittsburgh, Pa.



With *This* beside you in the Wilderness

CLARK GENERATOR UNIT

Old Omar Khayyam found that a good companion, a bit to drink and eat, were all he needed for happiness in the wilderness.

Modern operators who like electric power find that they can take the CLARK Generator Unit with them anywhere . . . and have efficient electric power . . . at low cost for operation and maintenance.

Generator—75 k.v.a., 3-phase, 60-cycle, 400 R.P.M.—is direct connected to CLARK 4-cylinder gas or gasoline engine—90 H.P. at 400 R.P.M. Unit is completely enclosed, automatically lubricated, perfectly balanced and ruggedly built.

Get full information from Clark Bros. Company, Olean, N. Y. Export office: 150 Broadway, New York City. Branches and Warehouses: 125 W. First St., Tulsa; McCamey and Sweetwater, Texas; Artesia, N. M. California: Smith, Booth, Usher Company, 228 S. Central Ave., Los Angeles.

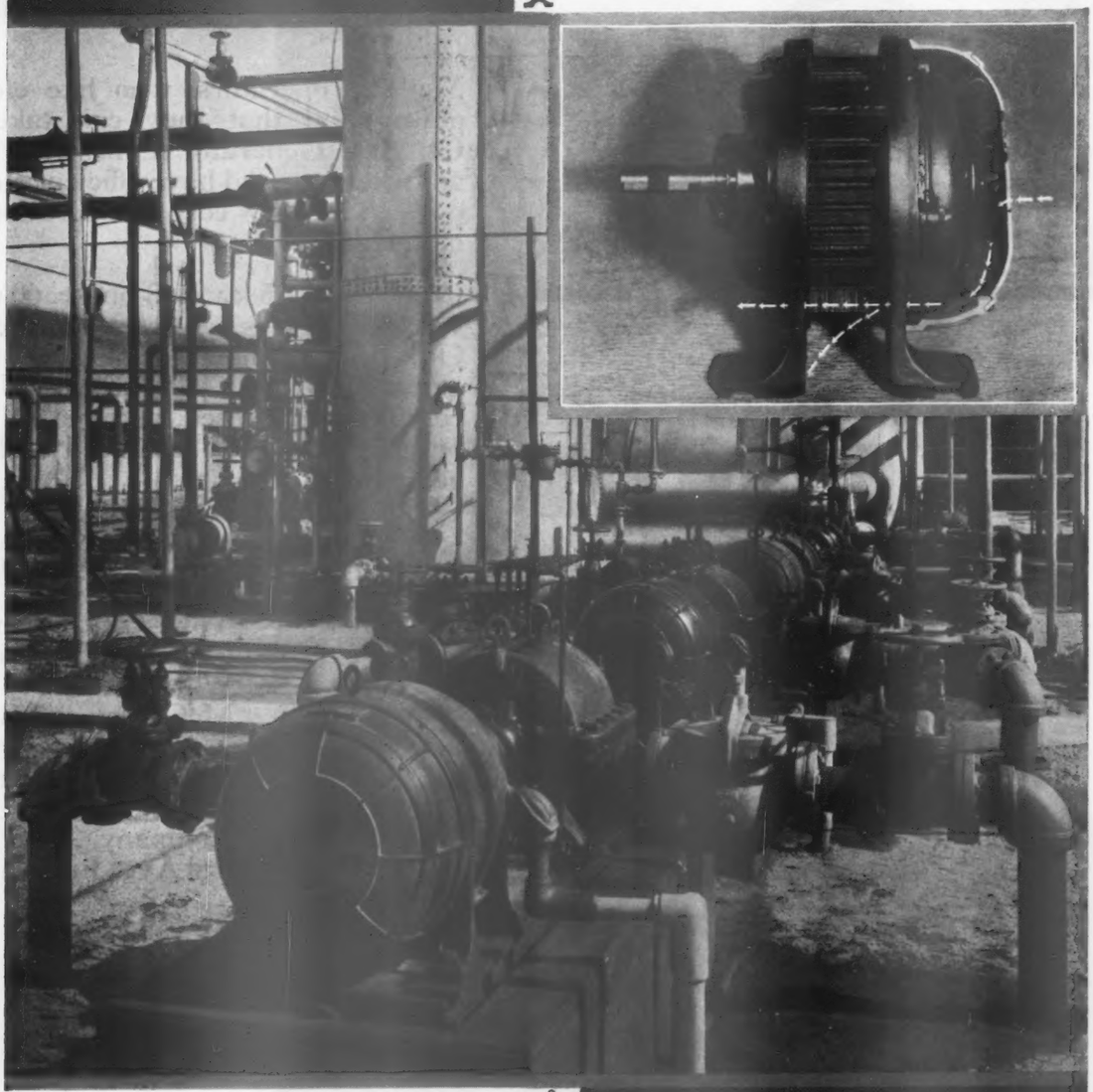
Crosbie and Moran Plant No. 2, Earlsboro, Oklahoma.

Compressors and Gas Engines

CLARK

Weather-proof Motors

Wagner air-jacketed Motors are dust-proof and weather-proof yet thoroughly ventilated. They are totally enclosed and completely sealed against dust, gases, fumes, steam and moisture. An externally-mounted blower jackets the motor with continuously moving air and keeps it cool. These motors are operating outdoors and indoors, in the field, in refineries, on pipe lines, in gasoline plants.



Wagner builds every commercial type of motor and can recommend without prejudice the proper motor for the job.

Literature on Request

WAGNER ELECTRIC CORPORATION
6400 Plymouth Avenue, St. Louis, U. S. A.

Wagner Sales Offices & Service Stations in 25 Principal Cities

Products: **FANS . . . . . Desk, Wall and Ceiling**
TRANSFORMERS . . . Power, Distribution and Instrument
MOTORS . . . Single-phase, Polyphase and Direct Current

Wagner ...quality

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And Barnsdall uses Strong traps

ONLY Strong traps have the famous *ANUM-METL* seat and disc—the almost indestructible alloy which makes the unqualified Strong guarantee mean so much to users.

This wear-resisting valve seat and disc metal, together with machine design proved by many years use to be virtually unfailing in the hands of thousands of customers, makes a Strong trap an equipment investment of the soundest.

Barnsdall Oil Company has found this to be true. Here are shown two of the many Strong steam traps in use on their Carr City Field property. The machine at the upper left is trapping water out of the steam line to an absorber; the trap at lower right is trapping water out of the steam line to a heat exchanger.

Strong traps are thoroughly tested under actual operating conditions before shipment. A Strong trap cannot become air-bound, nor can it wire-draw. If the slightest leak develops within one year from installation, a new valve seat and disc will be supplied without cost. Ask for *BULLETIN* 100-A, the Refinery and Gasoline Plant Catalog.

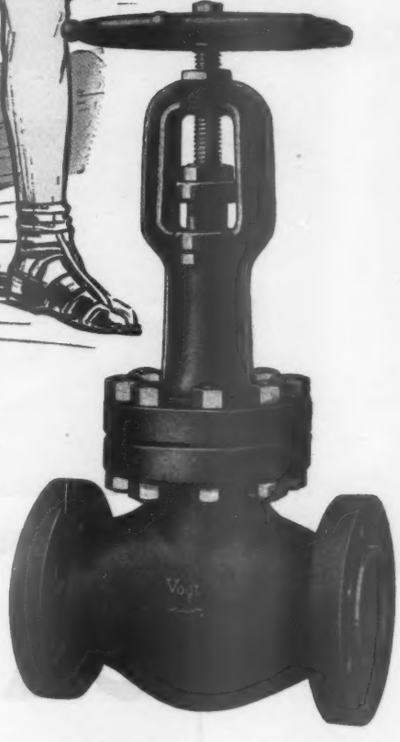
STRONG CARLISLE & HAMMOND

For the gasoline plant and refinery there are Strong Anti-Freeze Relief Valves, Atomizing or Blending Valves, Cushion Non-Return Valves for compressor and field lines, Gas Engine Stops, Gasoline and Steam Separators, Mineral Seal Oil Traps, Separating Traps, Vacuum Traps, Lifting Traps, Steam Traps, and combination Vacuum-Pressure Relief Valves.

MANUFACTURERS OF STRONG SPECIALTIES—CLEVELAND, OHIO

How Alexander Solved A Knotty Problem

The story goes that the Gordian knot was so ingeniously done, none could untie it. Alexander was told that whoever undid the knot would become conqueror of the world, so he cut it with his sword.



There are knotty problems in your plant today that can be solved in this drastic manner. Cut out the old valves and fittings that are causing trouble and put in Vogt Drop Forged Steel. It is a matter of time, money and labor saved.

Vogt Drop Forged Steel Valves & Fittings

HENRY VOGT MACHINE CO.
INCORPORATED
LOUISVILLE, KY.

Manufacturers of: Oil Refinery Equipment, Drop Forged Steel Valves and Fittings, Water Tube and Horizontal Return Tubular Boilers, Ice Making and Refrigerating Machinery.

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Freedom from leaks *assures* Plant Safety

EVER mindful of the daily hazards in the Petroleum Industry Braun engineers have spent years of research and development on arc welding—its practice, application and limitations. We can unhesitatingly offer Braun arc welded construction for many services in which we have found it unsurpassed. . . .

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Safety!

Your TRIMO won't fly off a Twisted Sucker Rod *if equipped with* the new TRIMO Safety Insert Jaw

The cost is small—
The protection is great

No Sucker Rod Crew need go on the job without the protection of this TRIMO SAFETY INSERT JAW

It is just a matter of replacing the lower jaw in your 36″ TRIMO with this special SAFETY INSERT JAW

THIS 36″ SAFETY INSERT JAW, with a knob on the end, adjusted properly, locks the wrench and eliminates the danger of accident on account of the wrench flying off. To distinguish this from the regular insert jaw, this new part of the 36″ wrench will be called the TRIMO SAFETY SUCKER ROD INSERT JAW. This can be easily carried with the regular equipment and inserted without trouble on the Trimo 36″ wrench.

With the added strength of the IMPROVED and MIGHTIER TRIMO WRENCH many accidents can be eliminated by the use of the new Trimo and this extra SUCKER ROD SAFETY INSERT JAW.

Trimo Safety Sucker Rod Insert Jaw, list price $3.50, subject to discount.

TRIMO

SUPERINTENDENTS are looking for safety and protection against accidents.

SUCKER ROD CREWS can protect themselves by seeing that their 3 foot Trimos are equipped with THE TRIMO SAFETY INSERT JAW.

Made by

TRIMONT MFG. COMPANY, INC.

55-71 AMORY STREET
ROXBURY (BOSTON), MASS., U. S. A.

Makers of *TRIMO* Pipe Wrenches and Other Oil Field Tools for Over Forty Years

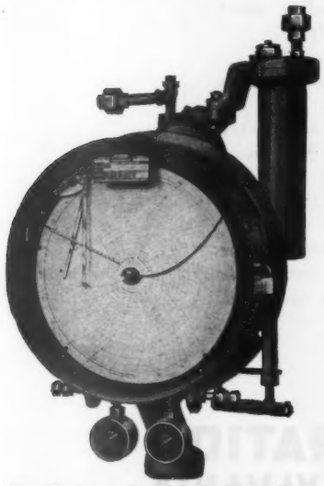
Foxboro Volume Controller on repressuring. Roeser and Pendleton, Cook Ranch, Albany, Texas.

But it's ALWAYS Fair Weather *for* Foxboro

EXPOSED to all kinds of weather—right out in the open—this Foxboro Controller day in and day out—with never a falter—controls the volume of gas to a well being flowed by gas lift. That's the kind of service a Foxboro Instrument is called on to stand.

The Roeser and Pendleton Company, Albany, Texas, is but one of scores of users of Foxboro Flow Controllers who are regulating oil production by gas lift and repressuring. And Foxboro Instruments stand the gaff!

Foxboro Flow Controllers, on gas lift, properly control the volume of gas or air to the wells. They maintain uniform pressure conditions at the bottom of the well, prevent tendency of well to head or to empty the flowing string. For repressuring, Foxboro Controllers are indispensable. They protect the wells against bypassing and plugging.



The Foxboro Automatic Flow Controller. Backed by sixteen years of engineering experience of the oldest manufacturer of Recorder-Controllers in the world.

Oil sands can be repressured as rapidly as possible with perfect safety.

Such a record of performance merits serious investigation. Get in touch with the nearest branch office—see what Foxboro Instruments are doing for other big oil and gas plants and what their owners say about them.

Write or wire today. You may have the services of a Foxboro Engineer to help you with your problem.

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J. E. Treacy, Strada Golesti No. 9, Ploesti, Roumania
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Agents east of the Mississippi for Robinson Patented Orifice Flange Fittings.

FOXBORO

Reg. U. S. Pat. Off.

THE COMPASS OF INDUSTRY

The Foxboro Guarantee, sealed to each Recording and Controlling Instrument.

Instruments for Controlling, Recording and Indicating Temperature, Flow, Humidity and Pressure

BACK OF EVERY JOINT OF J&L SEAMLESS JONES & LAUGHLIN SERVICE

To the Fields

Unsurpassed delivery service is a part of your purchase when you order J & L Pipe, whether it is Seamless Casing, Tubing, Drill Pipe, or Lapwelded Tubular Products.

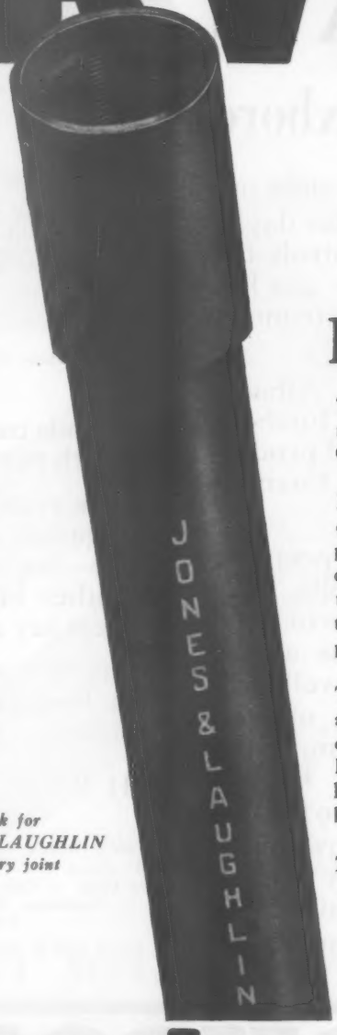
Situated at Memphis is the J & L warehouse from which we serve the different fields as follows:

Three Days or Less to Augusta, Wichita, Tulsa, Covington, Maud, Healdton, Electra, Big Spring, Pyote, Coleman, Eldorado, Beaumont, Shreveport, West Lake.

Five Days to Luling. This schedule is for direct shipment. To meet emergency needs, our distributors carry ample stocks of J & L Pipe at their stores located in all important fields throughout the Mid-Continent and Southwest regions.

Look for JONES & LAUGHLIN on every joint

J&L STEEL



J&L PIPE

In the Fields

Talk to men in the fields, the men who use J & L Seamless Casing, Tubing and Drill Pipe.

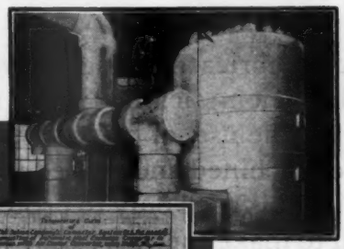
In place of only the passive acceptance they accord ordinary products, you'll find full-measure enthusiasm built on experiences that have proved J & L Seamless to be the highest quality steel pipe you can run in a hole.

These drilling superintendents and farm bosses, who have set down both moderate and extra long strings of J & L Seamless, have different ways of telling it, but their story is much the same:

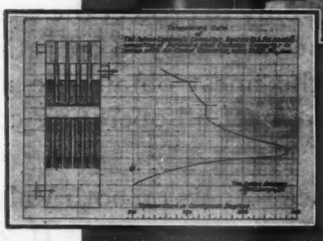
They prefer J & L Seamless for all their holes—they come right out and ask for it on the hard, unusual jobs.

JONES & LAUGHLIN STEEL CORPORATION
PITTSBURGH PENNSYLVANIA

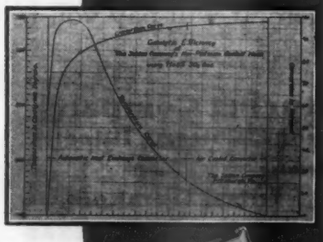
THE SELDEN COMPANY'S NEW CONTACT SULPHURIC ACID PROCESS CUTS PRODUCTION COSTS *not cents but* DOLLARS PER TON



The Selden Company's 40 ton Converters.



Temperature Curve of The Selden Company's Compound Heat Exchange Converter System. [U. S. Pat., 1,660,511]



Catalytic Efficiency of The Selden Company's Non-Platinum Contact Mass using 7 to 8% SO_2 Gas.

For the first time in Sulphuric Acid History, the production of contact acid has been placed upon an automatically controlled basis, making it possible to operate an entire plant from a single control point. Hitherto existing limitations of converter size and capacity have been eliminated and a new standard of conversion efficiency [98% or better] established.

This revolutionary development, unquestionably the most important contribution to the art in a quarter century, makes available tremendous economies in operation, so sensational, in fact, that no producer of sulphuric acid can afford to ignore their significance.

The Selden Company's New Compound Heat Exchange Converter System and New Powerful Non-Platinum Catalyst [stabilized for long life] are responsible for these extraordinary results. The charts at the left indicate how perfectly the automatic co-ordination of reaction speed and best possible equilibrium of the reaction is carried on throughout the entire converter system.

The Chemical Construction Company have already placed in operation and have under construction plants using this new process having an annual capacity of 400,000 tons H_2SO_4 equivalent.

Whether the proposition of producing your own sulphuric acid has ever been considered or not write for this booklet. Get all the facts about this new, cost-cutting process, today.

The SELDEN COMPANY
B-591 Selden Chemical Square
Pittsburgh, Penn., U. S. A.

BARCO

non-sticking non-leaking Plug Valves

Cross section of LCI Barco Lubricated Valve. Also made with steam jacketed cap for asphalt and tar.

THE Barco Lubricated Plug Valve gives you dependable non-sticking and non-leaking operation, with the use of very little lubricant. The parts are machined and lapped to be tight, so that the lubricant is used only to protect the wearing parts and to make the valve easy in operation. Barco Lubricants are the finest obtainable and are furnished in types to meet all operating conditions.

The large number of repeat orders on both Valves and Lubricant justify these statements. If you are not already using them, it will pay you to investigate.

Barco Manufacturing Company
1801 Winnemac Avenue, Chicago, Illinois

Agents:

Vinson-Canter Co., Tulsa, Oklahoma
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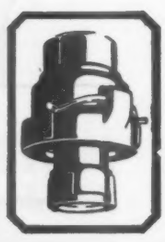
The Steam Supply & Rubber Co., Seattle, Washington

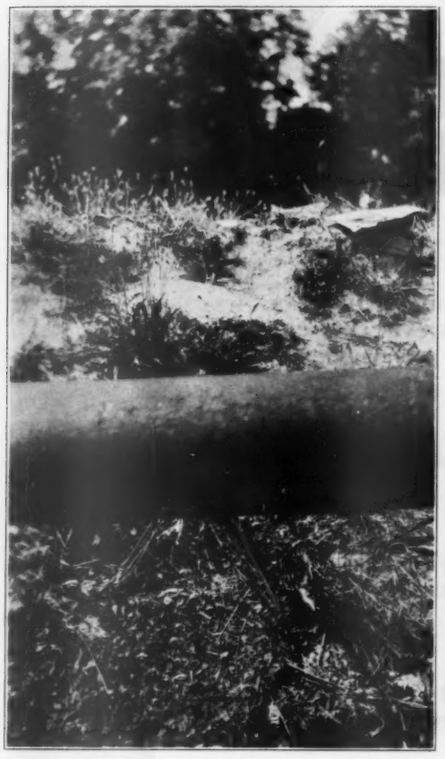
BARCO



Valves and Joints

OGJ 7-25 Gray

Reconditioning Pipe Line



The three stages of reconditioning are shown above:

The line after being cleaned off by machine.
The line coated with NO-OX-ID.
NO-OX-ID-IZED wrapper over the line.

NO-OX-ID kills all rust and pits immediately. Inspection of reconditioning jobs after several years shows that no further action has taken place.

It is significant of the value of NO-OX-ID that it is being used on reconditioning work.

Dearborn Chemical Company

"A House of Chemical Engineers" In Its Forty-first Year of Service to Industry.

310 South Michigan Ave., Chicago **205 East 42nd Street, New York**

Canadian Offices and Factory: 2454-2464 Dundas St., West, Toronto

NO-OX-ID

IRON + OX = RUST

TRADE MARK

The Original Rust Preventive

IDECO

BELT & ENGINE HOUSES

FOR STEEL OR WOODEN DERRICKS

An all-steel outfit from top of derrick to engine house will, of course, prove most economical in the long run. However, these IDECO Buildings adapt themselves just as well to wooden derricks.

ADEQUATELY FLASHED

The outstanding feature of the IDECO flashing is its double weather protection at all points of contact.

PORTABLE

IDECO Buildings are convenient for the man who is ready to pull up stakes and move to a new location. They are dismantled quickly, without wasting the least bit of material.

EASY TO ERECT

IDECO equipment is broken down in unit parts to permit of easy hauling, but is manufactured to a point of completion to allow for a minimum of bolts and easy erection.

RUST RESISTING

Every part of an IDECO Building is subject to our Hot-Dip Galvanizing Process so that rust and corrosion cannot gain a foothold.

FIRE PROOF

An all-metal structure is naturally fire-proof. The galvanizing also serves as a protection because zinc is a dead metal and will not make sparks when struck by other objects.

THE INTERNATIONAL DERRICK & EQUIPMENT CO.,
Columbus, Ohio **Los Angeles, Calif.**

Plants: Columbus, Delaware, Ohio; Torrance, California; *Sales Offices:* Columbus, Ohio; New York City, N. Y.; Detroit, Michigan; Dallas, Texas; Wichita, Kansas; Los Angeles, California; Maracaibo, Venezuela; *Warehouses and Yards:* Columbus, Ohio; Tulsa, Seminole, Tonkawa, Drumright, Okemah, Wewoka, Maud, Sasakwa, Allen, Earlsboro, Oklahoma City, Oklahoma; Eldorado, Wichita Heights, Kansas; Bakersfield, Taft, Torrance, California; Houston, Hebbronville, Big Spring, Merkel, Odessa, Pyote, Pampa, Borger, McLean, Mexia, Luling, Texas; Shreveport, Lake Charles, Louisiana; El Dorado, Smackover, Arkansas.

Export Representation—74 Trinity Place, New York City; Columbus, Ohio; Houston, Texas; Los Angeles, Calif.

INTERNATIONAL STANDARD IDECO BUILDINGS (GALVANIZED)

614

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Refinery Section Starts on Page 208

Output 500,000 Bbls. Over Last Year

Highest daily average estimated total production in 1928, week ended Dec. 29, 2,585,844 bbls. Lowest in 1928, May 19, 2,338,241 bbls.

Crude Oil Production 20 Per Cent Greater, Consumption Only 11 Per Cent More. No Hope for Immediate Drop

By Andrew M. Rowley

Highest daily average estimated light oil production in 1928, week ended Dec. 29, 2,158,134 bbls. Lowest in 1928, Mar. 3, 1,927,713 bbls.

Crude oil production in the United States last week averaged one-half million barrels a day more than it did one year ago, an increase of 20 per cent. Crude oil consumption during the first five months of this year registered a gain of 11.2 per cent over the first five months of last year. This difference in the rate of increase in output and demand is the reason for the weakness in the crude oil market and for the belief that when the season of maximum demand begins to draw to a close, a readjustment in the crude oil price schedule is inevitable unless there is an appreciable drop in production.

There is no reason to expect any material decline in production of crude oil at least until September. Strong hopes are maintained in many quarters that the enforcement of the natural gas conservation measure in California will result in a good decrease in output of crude oil there. That law is scheduled to become effective August 31. It has been estimated a drastic enforcement of the measure would cause oil production in California to fall off 200,000 barrels daily but it is hardly likely the State will endeavor to enforce the law to the limit.

Notwithstanding the record production being brought to the surface daily, considerable new work is being started in widely scattered areas, with promising results being achieved through deeper drilling and further exploration work in many old producing sections. Little or no effort is evident to curtail production, producers in all sections seeming to have the desire to get as much crude as possible.

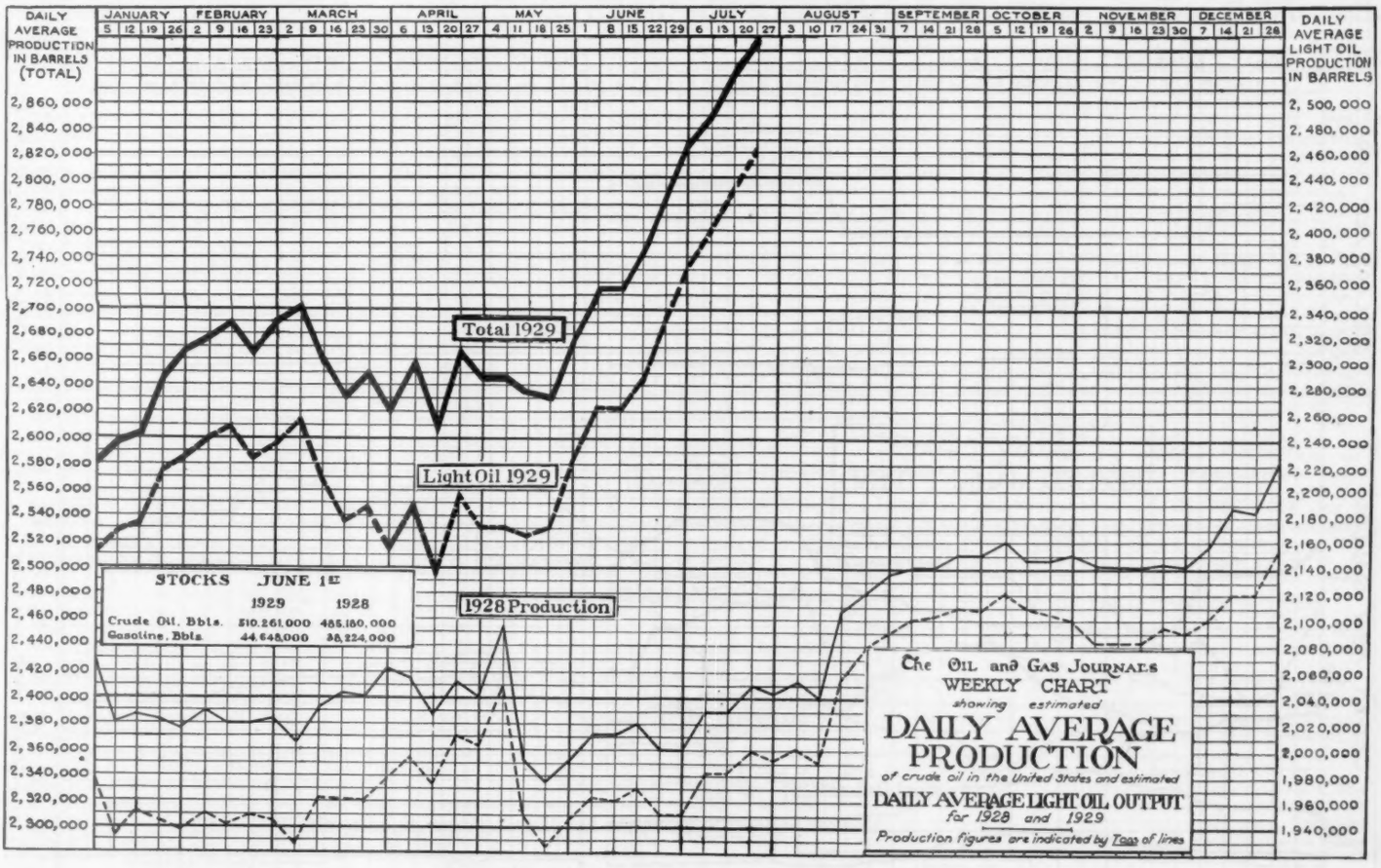
There is still a good demand for Mid-Continent crude but the feeling is growing the situation elsewhere in the country will further weaken the market in the Mid-Continent area as the summer demand begins to slacken.

PRODUCTION IN THE UNITED STATES

Estimated daily average production of light and heavy gravity oil in the United States for week ended July 20, and a comparison with the previous week follows:

	July 20		July 13	
	Light	Heavy	Light	Heavy
Oklahoma—				
Oklahoma City	21,430	.....	19,710	.....
St. Louis-Pearson	73,445	.....	76,260	.....
Seminole	301,110	.....	307,245	.....
Northern Miscellaneous	265,125	.....	261,670	.....
Southern Fields	55,870	.....	55,070	.....
Total Oklahoma	716,980	.....	719,955	.....
West Texas—				
Hendricks	140,200	.....	139,500	.....
Yates	141,066	.....	122,069	.....
Remainder	117,423	.....	119,740	.....
Total West Texas	398,689	.....	381,309	.....
North Louisiana	29,830	6,310	29,550	6,120
Arkansas	21,680	46,970	21,530	47,640
North Central Texas	147,195	.....	144,006	.....
Texas Panhandle	90,373	.....	85,870	.....
East Central Texas	19,148	.....	19,510	.....
Kansas	124,575	.....	121,215	.....
Total Mid-Continent Area	1,548,470	53,280	1,522,945	53,760
Gulf Coast	.....	152,681	.....	156,957
Southwest Texas	.....	76,474	.....	75,233
Eastern	121,000	.....	121,000	.....
Rocky Mountain Area	73,888	.....	74,912	.....
California—				
Santa Fe Springs	295,000	.....	285,000	.....
Long Beach	171,009	.....	171,000	.....
Huntington Beach	41,750	.....	42,000	.....
Elwood	28,000	.....	28,000	.....
Ventura Avenue	58,500	.....	59,000	.....
Seal Beach	49,000	.....	50,000	.....
Remainder of State	79,500	163,000	78,500	166,500
Total California	722,750	163,000	713,500	166,500
Total United States	2,466,108	445,435	2,432,357	452,450
Grand Total		2,911,543		2,884,807

Total Increase, 26,736 Bbls.; Light Oil Increase, 33,751 Bbls.



Spot Gasoline Demand Continues Slow

Oklahoma Refiners Expect Improvement Soon. Increased Movement of Antiknock Grades. Distillates Firm

By C. O. Willson

Although the price reductions of the two previous weeks have not materialized yet the gasoline market in Oklahoma (Group 3) continued unsettled as the new week opened.

The establishment of an 8-cent price for the 58-60 U. S. Motor grade in Oklahoma a week ago by the major refiners has not materially improved the spot demand. Refiners who have been underselling the general market for several weeks have not changed their policy and on Monday and Tuesday of this week sales as low as 7¼ cents for spot movement were reported.

The remaining products in the Oklahoma refinery list were fairly steady. The kerosene movement is slow but most refiners are holding to the prices of the previous week when quotations were reduced one-fourth cent. Fuel oil and gas oil prices are steady and the better grades of distillates are strong despite the fact that this is the off season for fuel consumption. The movement of natural gasoline improved the latter part of last week and prices advanced fractionally. Practically all manufacturers report a strong demand for neutral oils and cylinder stocks with no change in wax prices.

Expect Improvement

Although the spot demand for gasoline had not materially improved up to Tuesday most of the sellers are of the opinion a better movement is just around the corner. This prediction is based on two developments. In the first place refiners feel they have reduced their prices to the point where they would be in a position to secure some of the business they lost in early June to refiners in other areas.

In the second place there have been indications during the past few days that before the end of July there would be a curtailment in the gasoline supply available from Oklahoma and other Mid-Continent refiners. Several refiners who have been selling their U. S. Motor gasoline from 7 to 7½ cents conceded they are operating at a loss and unless there is relief in the near future they will be forced to curtail their operations or shut down entirely. This is the usual relief for a weak market in the Mid-Continent and there apparently is no other remedy in the present situation.

Oklahoma refiners endeavoring to move U. S. Motor gasoline at the new price of 8 cents the past week reported a wide range of prices coming from as far east as Pennsylvania, including California gasoline from the East Coast, as far south as the Gulf Coast and as far west as the Rocky Mountains. West Texas gasoline was quoted on basis which netted 7 cents at the refinery, Arkansas and North Louisiana gasoline was quoted as low as 7⅜ cents while quotations from the East in Ohio and Indiana and parts of Michigan were as low as 6.9 cents basis Group 3.

The policy being maintained by several refiners is to endeavor to maintain prices in what they consider their normal marketing territory and then dump their surplus in other areas at whatever prices obtainable. The inevitable result of such a policy is the gradual overlapping of marketing territories so that the dump price is the prevailing market everywhere. This has been the situation over the past week.

With the heaviest demand of the year assured for August, Mid-Continent refiners are now hopeful spot business will improve. Based on comparative crude oil prices it is apparent the so-called "outside" competition cannot make additional reductions in prices without operating at a loss. It is assumed these refiners will also find it necessary to restrict their plant operations rather than pursuing the policy of entering the Mid-Continent with lower priced material.

Antiknock Demand

One of the outstanding developments of the past few months in the Oklahoma and Mid-Continent market has been marked increase in demand for antiknock gasolines. This demand has been strong enough so that a few refiners have been

(Continued on Page 241)

REFINED MARKET BAROMETER

Weakness again predominated in refined markets throughout the United States during the past week. The demand for several products in many areas was heavy but in the face of the admitted weakness of the crude oil situation due to large increases in production there was no disposition on the part of refiners to advance prices and when changes were made they were reduced. Despite the heavy seasonal consumption of gasoline, tank car sales are still being made under highly competitive conditions in which price concessions are the rule. Kerosene prices are holding fairly well considering the general market situation. The fuel oil and gas oil market is unsettled in the coastal areas but prices are firmer in the interior. From many of the agricultural areas there is an excellent demand for kerosene and distillate used as motor fuel for tractors and other farm equipment. The movement of natural gasoline improved over the previous week and there were no further price reductions in the Mid-Continent Steam refined cylinder stocks and bright stocks are weak in Pennsylvania and the East Coast with a wide range in prices. Wax prices also weakened in the East with no change in the Mid-Continent.

Mid-Continent—No improvement in gasoline spot market and prices generally lower in all areas. Kerosene prices also fractionally lower in most areas. Better demand for natural gasoline and prices higher. No change in fuel oil and gas oil. Lub oils and wax unchanged.

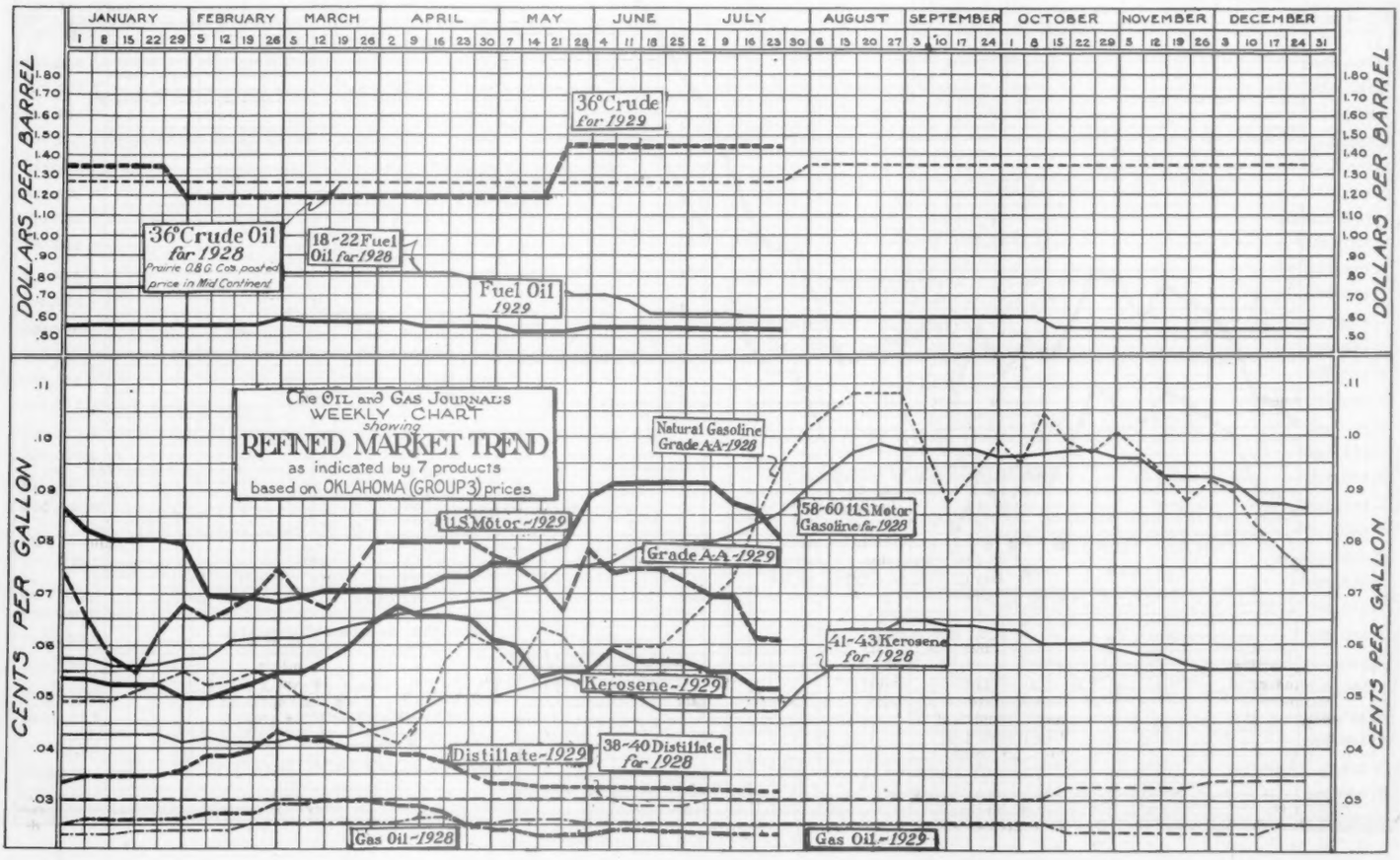
East Coast—Weakness in practically all refinery products. Price cutting in refinery gasoline market. Kerosene weak. Wax prices lower. Steam refined cylinder stocks and bright stocks irregular and prices generally lower. Petrolatum less active with slight reductions in prices.

Pennsylvania—Several grades of refinery gasoline lower. Downward trend in lubricating oil prices. Wax weak.

Chicago—Market generally quiet. Some improvement in demand for gasoline but prices lower. Kerosene moving in small orders. Light demand for fuel oil and distillate.

California—Domestic prices steady. Price concessions rule in export and coastwise movement.

Gulf Coast—Slow movement of fuel oil with no change in prices. Lub oil prices unchanged.



Federal Commission Acts On Code

Two Provisions Eliminated Because of Doubtful Legality but Others Approved. Resolutions Divided Into Two Groups

By C. E. Kern
Washington Bureau, The Oil and Gas Journal

WASHINGTON, D. C., July 25.—The Federal Trade Commission today announced its decision in regard to the Code of Ethics to govern the sale of refined petroleum products. The commission has had the code under consideration since February.

The code was approved by the oil industry at the annual meeting of the American Petroleum Institute in December. It was formally presented to the commission following a Trade Practice Conference held in St. Louis in February. Chairman Edgar A. McCulloch presided at the St. Louis conference and it was estimated that between 95 and 97 per cent of the refining industry of the United States was represented at the meeting.

In its report today the commission eliminated from the code two important rules approved by the oil industry. They were dropped because the legality of their provisions was questioned.

Resolution 1, as adopted, was divided by the commission into Group 1 and Group 2 rules; Resolution 3 was likewise divided.

Resolutions 7, 8, 9 and 10, as adopted, were amended by striking out certain words from the resolutions, as shown in the report attached. Resolution 8 was further amended by adding at the close thereof after the word "improvements," the following: "In order that the transaction may not result in rebating."

Resolutions 12 and 19, as adopted by the industry, were stricken. As adopted they read:

"Resolution 12: No refiner, distributor, jobber or wholesaler shall give to a dealer doing business with a competitor a greater extension of credit, either in time or amount, than that allowed by the competitor, for the purpose of inducing the dealer to cease doing business with the competitor."

"Resolution 19: In adopting this code, it is understood that in case where a competitor who has not agreed to the code shall violate its provisions, the company offended against may report the violation to the chairman, or in his absence, the vice chairman, of the regional marketing committee of this institute of the region wherein the violation took place, and may take such lawful steps to meet the competition as may be approved by him; but in any event the company offended against shall promptly make and prosecute a suitable complaint to the Federal Trade Commission."

As finally acted upon by the commission there are seven rules in Group 1. These are affirmatively approved, and practices condemned regarded as violative of law. The remaining rules, 14 in number, have been placed in Group 2 and accepted as expressions of the trade.

The full text of the commission's statement, with the amendments indicated, and a list of companies present or otherwise represented at the conference, follows:

A trade practice conference for the Petroleum and Petroleum Products Industry, was held on February 11, 1929, at the Statler Hotel, St. Louis, Mo. The conference was conducted by Honorable Edgar A. McCulloch, chairman of the Federal Trade Commission, assisted by M. Markham Flannery, director of trade practice conferences.

It was estimated that between 95 and 97 per cent of the refining industry of the United States was present or represented at the conference.

After registration of those present and the election of a secretary, Chairman McCulloch explained the purposes and objects of the trade practice conference work, stating, among other things, that there had been between 50 and 60 such conferences held for as many different industries in the last few years. Among this number were some of the largest industries of the country. The attitude of the Federal Trade Commission with reference to this proceeding was also briefly reviewed.

Paul E. Hadlick, secretary of the Minnesota Petroleum Association and the North Dakota Petroleum Association, was elected secretary of the conference.

A.P.I. DIRECTORS TO CONSIDER REPORT

NEW YORK, July 25.—The board of directors of the American Petroleum Institute will meet in this city next Tuesday, July 30, to consider the code governing practices in the marketing of refined petroleum products as acted upon by the Federal Trade Commission in its report made public today.

It is expected the board of directors at this meeting will decide upon the next step towards application of the code by the industry.

Resolution 1, as adopted by the industry, was divided into Group 1 and Group 2 rules, appearing in the rearrangement as Rule 1, Group 1, and Rule 8, Group 2.

Resolution 3, as adopted by the industry, was divided into Group 1 and Group 2 rules. As rearranged, these rules appear as Rule 3, Group 1, and Rule 10, Group 2.

Resolution 7 (now Rule 14, Group 2) was amended by striking out at the close thereof the words, "not less than 6 per cent plus taxes."

Resolution 8 (now Rule 2, Group 1) was amended by striking out the words, "price cutting or" in the second sentence; and further amended by striking out the words, "not less than 6 per cent plus taxes," and adding after the word, "improvements," the following language: "in order that the transaction may not result in rebating."

Resolution 9 (now Rule 17, Group 2) was amended by striking from the third paragraph, at the close, the words "or lower his cost of doing business, or lessen his investment in his facilities or equipment."

Resolution 10 (now Rule 18, Group 2) was amended by striking therefrom the last sentence, reading:

"When such deliveries are made an allowance for cartage should not exceed 1 cent per gallon."

Resolutions 12 and 19, as adopted by the industry, were stricken out by the commission.

The rules as adopted by the industry, and as amended by the commission, have been arranged in two groups. Those appearing in Group 1 are affirmatively approved by the commission. Those appearing in Group 2 are received as expressions of the trade.

Group 1

Rule 1 (formerly part of Resolution 1).

The practice of loaning or leasing gasoline pumps, tanks and other equipment is unsound and uneconomic, and should be discontinued at the earliest possible moment, consistent with existing conditions. Until such time as this situation can be brought about, and only in those states in which the practice is now observed, gasoline or kerosene pumps and tanks, motor oil equipment and grease outfits (the grease outfits not exceeding in cost $50 each) may be loaned or leased for the exclusive storage and handling of the products of the lender or lessor, but the borrower or lessee shall not be prohibited from handling in other equipment the products of another supplier. Where no equipment is at present installed by any company, or where additional equipment may be added to existing locations, the borrower or lessee shall be required to pay for the installation of each loaned or leased equipment, the actual cost of installing said equipment, and for this purpose shall make a cash deposit of at least $100 in advance for each underground unit to be installed, and shall pay, as or when due, all privilege taxes attaching because of the installation or maintenance of such equipment.

(Note by Commission: That part of this rule which relates to handling, by the borrower of equipment, of the products of a supplier other than those of the lender of the equipment, is approved as a Group 1 rule—the other portions of the rule being treated independently, as belonging in Group 2.)

Rule 2 (formerly Resolution 8).

Refining companies, wholesalers, distributors and/or jobbers may acquire by bona fide leases or subleases, service and filling stations or sites for same, and such stations and/or sites may be leased or licensed by such company to dealers for the purpose of distributing its products.

Such stations and/or sites shall not be acquired at one rental and then subleased or licensed at a reduced rental for the purpose of rebating. In the event the company makes improvements to such properties prior to subleasing same, such sublease shall provide in addition for reasonable return upon the cost of such improvements, in order that the transaction may not result in rebating.

Rule 3 (formerly part of Resolution 3.)

No company shall paint over any sign or colors of another company until it has communicated with the company whose signs or colors are involved, inquiring whether or not the latter company has any written contract which would be violated by the proposed painting. The latter company shall respond promptly, giving the information requested; and if it holds a contract which would be violated, shall offer to submit it for inspection at its office. If the contract so submitted discloses that the proposed painting would constitute a breach of contract, the painting shall not be done.

Rule 4 (formerly Resolution 14.)

No refiner, distributor, jobber or wholesaler shall knowingly induce, attempt to induce, or assist a party to break an existing written contract for the sale of petroleum products between that party and another.

Rule 5 (formerly Resolution 15.)

All aboveground equipment for refined products shall bear in a conspicuous place the name or trade mark of the owner or lessor, and no refiner, distributor, jobber, wholesaler or retailer shall knowingly deliver into such equipment any refined product other than the brand designated, or in any way be a party to the substitution of one grade or brand of refined products for another.

Rule 6 (formerly Resolution 17).

Lotteries, prizes, wheels of fortune and/or other games of chance shall not be used in connection with the sale of gasoline or motor oils.

Rule 7 (formerly Resolution 20).

The selling of refined petroleum products below cost for the purpose of injuring a competitor, and with the effect of lessening competition, is an unfair trade practice.

Group 2

Rule 8 (formerly part of Resolution 1).

On account of the special nature of service required in supplying petroleum products to airports, no dispensing or storage equipment of any kind shall be leased, loaned or otherwise furnished to airport operators or re-sellers of petroleum products, except at full cost, including cost of equipment and storage installation.

Rule 9 (formerly Resolution 2).

A lender or lessor of equipment shall neither extend credit to the borrower or lessee for installation costs, nor advance money to him to cover payment of privilege taxes, or any other expense in any manner related to the installation of loaned or leased equipment.

It is not the intention of Rule 1 and Rule 9 (formerly Resolution 2) to require the payment of installation costs from the borrower or lessee for exchanges and/or substitution in existing equipment on locations where gasoline, kerosene or lubricating oils are being sold upon the date of the Federal Trade Commission's approval of this code. The privilege of exchange or substitution of equipment is declared to extend to all dealers, not merely to the original lenders.

Rule 10 (formerly part of Resolution 3).

Except as may be provided in Rule 2 (formerly Resolution 8), refiners, wholesalers, distributors and/or jobbers shall not construct for retailers any driveways, canopies, sheds, greasing pits, building or other structures; do painting other than their standard signs or loaned equipment; make improvements to existing structure or facilities; nor furnish or loan air compressors, greasing lifts or racks, or other things of value except equipment stated in Rule 1 hereof, nor bear any part of the expense of construction work on the premises or re-sellers, nor loan money for the same.

Rule 11 (formerly Resolution 4).

No equipment except trade marked pump globes and other standard advertising devices shall be loaned to tank car buyers and/or distributors.

Rule 12 (formerly Resolution 5).

Refiners, distributors, jobbers and/or wholesalers shall not pay rentals or make any allowance for the privileges of installing pumps and tanks, or for displaying advertising on premises where refined products are sold.

Rule 13 (formerly Resolution 6).

Refiners, distributors, jobbers and/or wholesalers shall not rent from any dealer or consumer any delivery equipment, and shall not purchase from any dealer or consumer any delivery equipment for more than its actual value.

Rule 14 (formerly Resolution 7).

Refining companies, wholesalers, distributors and/or jobbers may own service and filling stations or sites for same, and may lease such stations and/or sites to dealers for purposes of distributing its products, provided that such leases shall stipulate for a reasonable return to the lessor upon the then fair value of the property for filling station purposes.

Rule 15 (formerly Resolution 18).

Gasoline shall not be sold from tank wagons or trucks to other motor vehicles except in emergency cases.

Rule 16 (formerly Resolution 16).

No oil or other thing of value shall be given away, or special inducement granted, on opening days, special sale days, or other occasions.

Rule 17 (formerly Resolution 9).

All refiners, distributors, jobbers and wholesalers shall conspicuously post, at each point from which they make delivery, the several posted prices of gasoline and kerosene for each class of de-

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Oklahoma City Pool Has Problems

Cable Tool and Rotary Drilling Operations in This Area Present New Conditions for the Producing Companies

By L. G. E. Bignell
Petroleum Engineering Editor

It is very interesting to trace back through the history of Oklahoma's oil development and note how practices have changed and gradually permitted the deeper drilling of wells for oil and gas until now it is not considered at all unusual to drill below 6,000 feet in search of oil in this State. In some fields, notably in West Texas and California, operators are drilling below 8,000 feet.

The evolution of drilling practice and technique has also gradually changed from the use of the cable tools, with a fair per cent of drilling machines for prospecting in the shallower fields, to the use of rotary and cable tools for the deep drilling.

The Seminole area in Oklahoma was the first big flush pool where the rotary was used, and it was also the epoch-making period when "haste made waste" with a vengeance and caution and good drilling practice of the past was lost sight of in order to permit earlier completion of wells, regardless of the character of the hole drilled.

The day of reckoning came when these hastily drilled wells began to decline below the point where they could be economically flowed by the air or gas lift and it was necessary to attempt to tube them and put the well on the pump, usually with the beam type of equipment.

There are several other fields in Oklahoma that have been drilled as deep or deeper than Seminole and it seems to be the rule that this deep production is accompanied by many problems of handling large initial oil and gas flows, as well as many mechanical troubles that naturally developed, where the ordinary type of equipment is used for greater depths of drilling than that for which it had been primarily designed.

Derrick Foundations

One of the first problems the production department faced at the Oklahoma City Pool was the design of concrete foundations suitable for the heavy derricks and drilling outfits, and this was solved for the most part by the production department engineers treating the problem just as any other problem in concrete foundation design should be treated.

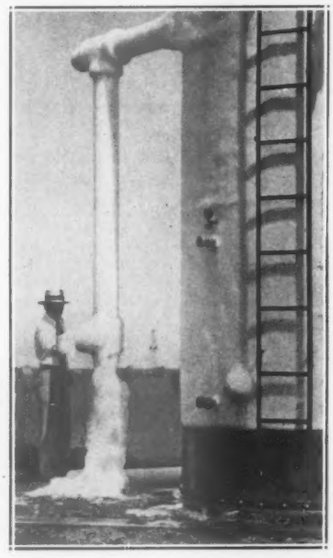
This was brought about to some extent by the fact that in the hurried development of the Seminole area contracts had been let without much regard to detail, other than that time was the essence of the operations, and anything that was handy was used for coarse aggregates in the concrete mixture, and the cement ratio only required that the mixture would flow, and sand of any type that could by any stretch of imagination be so classified was used.

The resulting corners poured from this kind of a mixture were in many cases so poor that their tensile strength was below the actual load placed on the derrick and failure by crushing followed.

Examination of some of the so-called concrete after these failures in the older fields showed about every kind of faulty condition that could be set up by poor workmanship and low grade of materials, and as a result Oklahoma City Field is notable for the fact that the corners and foundations under the derricks and other equipment is of the very highest grade of workmanship and material.

The usual concrete mixture specified is 1:3:5 with 6 gallons of water per sack of cement, and these specifications were checked very closely by the field engineers and contractors required to live up to their accepted contract specifications.

The corners under the derrick were usually of such size that the load was distributed over the soil or rock upon which they rested at a pressure per square foot well below that recommended by the usual table of soil loading, and this later proved to be very desirable for there were cases where very heavy strings of casing were lowered into the hole.



Breaking ice from a valve in the inlet line of the No. 1 Kinter well while the atmospheric temperature is about 92 degrees Fahrenheit. The frost on the separator is about 1 inch thick.

The derricks used throughout the Oklahoma City Field are of the 122-foot high combination rotary and cable tool type, and all other details of the equipment, such as samson posts, jack posts, walking beams, bandwheels and other cable tool equipment were placed with the idea that it would be required to serve for pumping the wells in addition to drilling them in, and the pumping load would be more severe than the drilling.

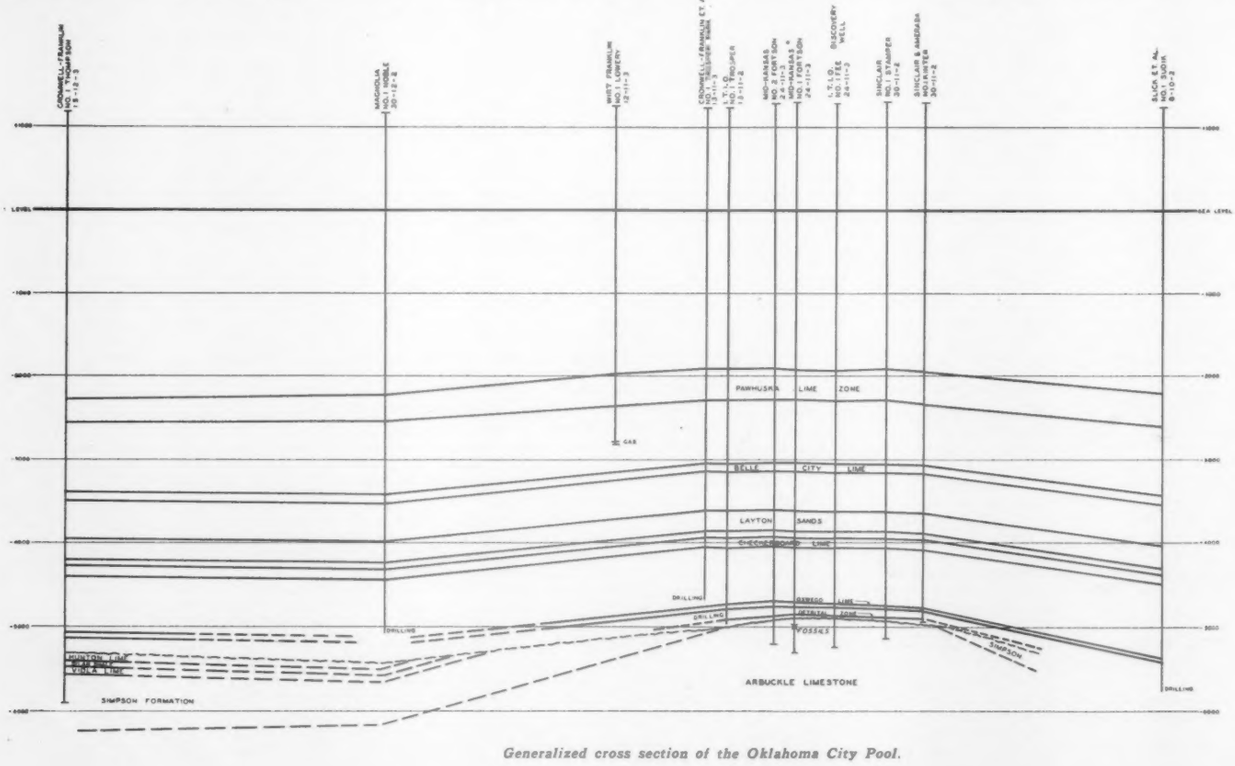
On the first setup the heavy type rotary outfits were installed and the large boiler plants that came into use in the Seminole area were used, working at pressures around 200 pounds per square inch, with twin cylinder steam engines to drive the heavy type rotary drawworks.

Comparison of Costs

The wisdom of carefully detailing every operation before starting work was shown when it became necessary to make a check to secure comparisons of the relative costs of equipment furnished by the producing companies at the Oklahoma City area and Seminole.

With the lump sum figure for the complete contract as let before them some auditors and executives thought the amount was high and out of line with what had been done at other places, but a careful check of all costs of work done at Seminole by the "piece work" plan with the complete contract plans showed the latter was preferable and actually was responsible for a saving in first costs.

In accordance with the previous methods, where every detail of work around the rig was taken up as an individual job and paid for as such, it was found the total of all of these miscellaneous operations was greater than the sum agreed upon in the contract for the same amount of work in the Oklahoma City area, and the contract plan had the advantage of allowing both contractor and producer to know in advance just what was to be done, and most contractors preferred this more modern method of

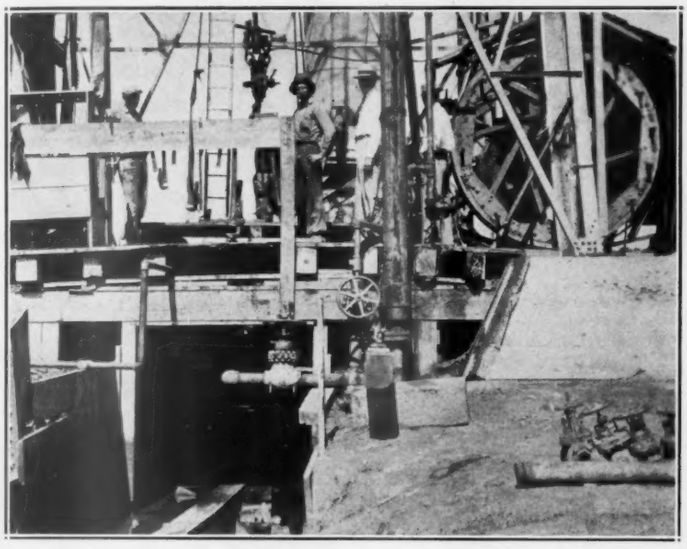


Generalized cross section of the Oklahoma City Pool.

doing business as soon as they became accustomed to it.

Further, it permitted the engineers for the production company to go on the job and check the work being done against something definite and if things were not just as specified there was little chance for misunderstanding when the desired changes in method of procedure were explained, for each detail had been thought out in advance and written into the contract signed by both parties.

Along this same line the drilling contracts were written so that the contractor agreed to keep the hole straight within a certain deflection from vertical, usually 5 degrees, and if the hole did vary over this prescribed amount it was necessary for the drilling crew to plug back and redrill and to make certain that the hole was drilled properly, the production company reserving the right for its engineer to take readings, by the use of the acid bottle method usually, at any time,



Connections at the base of No. 1 Emerson-Joyce lubricator showing how flow of mud into casing was controlled.

by giving a reasonable notice of the time he desired to do this work.

As the work went along the contractor found the care exercised in drilling straight in the upper part of the hole more than paid out when the lower depths were reached, and it is notable that no holes have been lost in the rotary drilled zone in the Oklahoma City Field to date.

Handling Drill Pipe

In the rotary work it was found that the heaviest duty was handling the string of drill pipe into and out of the hole, rather than landing the string of big pipe at the bottom of the rotary hole.

This presents a rather interesting problem involving two rather well-known laws of physics, that of displacement and buoyancy.

For the sake of illustration it will be assumed that the hole is 5,500 feet deep and drilled with 6-inch, 30-pound rotary drill pipe, and is to be cased with this same length of 40-pound, 9-inch A.P.I. casing. The mud used in the drilling operation has a gravity of 1.2 and it is also assumed this same weight of mud is used when the casing is "floated" into place.

The problem of the drill pipe is one of displacement for the mud in both inside and outside of this hollow pipe and the solution of this portion of the problem is as follows:

Specific gravity of iron	7.85
Specific gravity of mud	1.20
	Pounds
5,500 feet of 30-lb. pipe weighs	165,000
Tool joints	12,836
Six-inch swivel	1,775
Six-inch Kelly, 30 feet long	2,905
Eleven-inch rock bit	1,006
Total weight	183,516

It then resolves itself into the solution of the following equation:

Specific gravity of the iron is to the specific gravity of the mud as weight of drill pipe is to X.

Substituting, we have—

7:85 : 1.2 :: 183,516 : X

And solving we find that X equals 28,053 pounds or the weight of the mud displaced.

Therefore—

	Pounds
Total weight	183,516
Mud displaced	28,053
Net load on derrick	155,463

The second portion of the proposition is different in that the mud is on the outside of the casing only, when the float plugs placed in the end of the string operate properly and there is no occasion to pump fluid past them to remove cavings or other obstructions from the path of the casing being set.

Law of Archimedes

In this instance the law of Archimedes is involved for the 9-inch casing is buoyed up by a force equal to the weight of the mud displaced, for Archimedes law states:

"The buoyancy force exerted by a liquid is equal to the weight of the displaced liquid.

"A floating body displaces its own weight of liquid in which it floats."

Therefore the cubic feet of volume of the 9-inch pipe, outside diameter, 5,500 feet long is 2,429.9 cubic feet and the weight of 1 cubic foot of mud of 1.2 specific gravity is 62.5 pounds times 1.2 or 75 pounds.

The mud displaced will therefore equal: 2,429.9 cubic feet × 75 pounds per cubic foot or 182,242.5 pounds.

	Pounds
Weight of 5,500 feet of 40-lb. pipe is	220,000
Buoyancy due to mud displaced	182,242
Net load on derrick	37,757
Net load on derrick handling drill pipe	155,463
Net load on derrick handling casing	37,757

This outlines one of the many drilling problems where the rotary is involved, for field problems in all of these deep holes whether in Oklahoma City, Logan County or other areas in Oklahoma or in the Permian Basin of West Texas, or Pacific Coast fields, are largely divided into two general classes, those that have to do with the rotary hole and those dealing with the hole drilled with the cable tools.

The first well drilled, Indian Territory Illuminating Oil Co.'s No. 1 fee in C SE Section 24-11-3w, has the long string of casing set at approximately 6,000 feet but this is 6⅝-inch and not the heaviest string to handle, but cementing around this pipe at the bottom of the hole has presented some problems in several wells.

In the No. 1 fee Indian Territory Illuminating Oil Co. well it appears that the 6⅝-inch casing was set on the hard lime shell above the Arbuckle (Siliceous) lime formation and drilled into production in the Arbuckle formation.

Other wells completed since have found production in the detrital zone, and in the Simpson formation and it has been quite noticeable that nearly every well has presented its own particular problem in completing.

General Geology of Area

The general geology of the area seems to be that the Arbuckle lime is sharply folded and is the base of the series of sedimentary formations in this area and lies directly above the granite. This, however, is only based upon the generalized cross section of Oklahoma and not upon any evidence secured by the drill in the Oklahoma City area up to this time.

At least a portion of the Simpson series lies on the flanks of this Arbuckle limestone anticline or dome, and it has been productive of some oil and gas.

The identification of the producing formation as Arbuckle has been made by George S. Buchanan, geologist, of Tulsa, and his statement is given herewith:

"Mid-Kansas' No. 1 Fortson well in C SW NE Section 24-11n-3w was cored at a depth of 6,270 feet. Fortunately the core contained several specimens of Hormotoma sp. aff H. artemesia. These are high spired gastrapods quite common to rocks of Canadian age. Fossils of this genus are present in the dolomite of Cotter age at Spavinaw, Okla., and in the upper portion of the Arbuckle limestone in the Arbuckle Mountains.

"The angular unconformity of the Oklahoma City structure is thus comparable to the Garber structure where a thin section of Cherokee shale is found resting on limestone of Canadian age."

The Simpson series were evidently folded with the Arbuckle lime and then eroded away and a portion of this eroded material redeposited on the top of this leveled area as well as along the flanks of the anticline, and this deposition is being called "chat" by some in the field, whereas it is really detritus material.

This area of redeposition of detritus material is known as the "detrital zone" and the term comes from a derivation of the Latin word "detritus" which indicates the condition of wearing away of solid bodies by attrition or literally "a rubbing away." The material produced by such an action is known as alluvial detritus.

The method nature employed for handling this detritus material from the place where produced to the place where found is unknown but it does seem logical to assume that it represents the work of the seas that advanced over this area in that period between the deposition of the Hunton and Oswego formations.

If the Simpson formation masses were exposed to the actions of these advancing seas the material would be broken down by attrition and might be redeposited down the flanks of the old hills which were of Arbuckle limestones and leveled at the bed of the sea and when the waters receded this area was a plain made up of a mass of broken and redeposited Simpson formations.

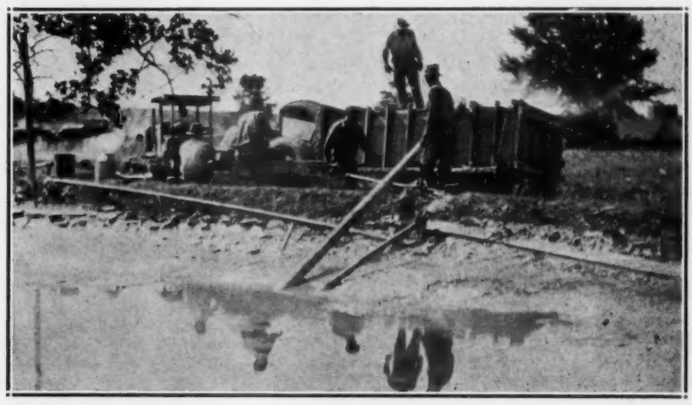
While this area was covered with these shallow seas it seems quite reasonable to assume that the water found a level in the Arbuckle limestone mass that fluctuated with the seasonal conditions and this water leached this limestone then just as surface waters are now working upon limestone bodies.

The upper part of the Arbuckle formations do not carry commercial gas or oil zones as it has done in other fields where productive but down in the limestone several hundred feet there is a zone of porosity where the limestones have apparently been leached and made quite porous.

In these porous spaces the gas and oil has accumulated and it is from those areas that the best wells are now producing. The Indian Territory Illuminating Oil Co.'s No. 1 fee has penetrated the Arbuckle formation about 400 feet and No. 1 Fortson has been deepened to 6,560-70 feet and the production has increased materially. The top of the lime in No. 1 Fortson is 6,168 feet which would indicate a thickness of 400 feet of this formation and seems to indicate that the leached zone or porous area from which the production is coming is approximately 100 feet thick and this was the old variable water level for this area as set up when the seas were present.

Detrital Zone

It hardly seems probable that these detrital deposits will be of any great area and they will probably be found down the sides of the Arbuckle anticline and are somewhat of the same general character as the granite wash areas of the Panhandle district of Texas.



Loading mud from slush pit into special truck by use of steam jet system in the Oklahoma City Field.

Sinclair-Amerada's No. 1 Kinter is making about 1,700 bbls. of light grade oil per day from this detrital zone at a depth of 6,194 feet, while the Shell Petroleum Co.'s No. 1 Petty, two locations to the north of it, apparently did not find any gas in this detritus material for they drilled through it with the rotary at 6,070 to 6,080 feet and set their 6⅝-inch casing at 6,132 feet.

Late information from the field seems to indicate that the No. 1 Petty is up the dip of the structure and above the No. 1 Kinter and this would tend to confirm the theory that the detritus alluvial material had been washed down the side of the old limestone hill to form the deposit into which the No. 1 Kinter has drilled.

Datum for No. 1 Kinter is 1,289 feet and for No. 1 Petty 1,302 feet, and the Petty well is evidently well up dip on the structure and they have passed on into the Siliceous lime (Arbuckle) and at 6,206 feet they encountered a pocket of gas that blew the tools up in the hole and caused a fishing job, because the tools traveled upward faster than the drilling line.

This string of tools and line were caught in the pipe about 500 feet off bottom and in trying to fish them out the line was forced so tight around the

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Colombia Expected to Revise Oil Laws

Leaders of Republic Oppose Confiscatory Legislation Which Has Discouraged the Development of Petroleum Resources

By M. A. Spellacy

BOGOTA, Colombia, July 6.—Colombia has decided to revise its oil laws with the avowed purpose of encouraging foreign capital, which means principally American, and to a lesser degree, English, to develop its oil resources. This will be as soon as the Colombian congress meets July 20.

It is hoped this will not mean "reform" in the Mexican sense. Mexico passed the law of 1917 and in 10 years not one well was drilled under its impossible provisions. It had a confiscatory clause meant to include the leases taken before the passage of the law of 1917. This was so manifestly illegal that the oil producers, backed by their governments, England and the United States, protested energetically, and appealed to the Mexican courts. The decision was not rendered for 10 years, but it declared the retroactive clause unconstitutional.

A new law then was passed, modifying the law of 1917, but so many features of the old law were embodied in the new one, that no wells have been drilled under its provisions in the two years since it was enacted.

The attitude of both England and the United States toward their citizens in foreign countries is expressed thus: "You must obey the laws of the country in which you make investments as you find them. But every effort of the home governments will be made to maintain the rights thus secured."

The production of Mexico, owing to its mistaken policy, has fallen from 200,000,000 bbls. annually to 35,000,000 bbls and it will continue to decrease as the old leases expire or fields become exhausted. More than $200,000,000 has been taken as toll directly from this production and probably as much more indirectly, as customs, income tax, etc. More than this sum has been distributed in wages, etc.

Capital Hard to Find

Even should Mexico now modify its present law materially, it is doubtful whether capital could be found to develop other fields there, at least as long as favorable laws are in force in the United States, Venezuela, Bolivia and many other countries. The country is in such turmoil, overrun by bandits, revolutionists and "patriots," that neither life nor property is protected.

In a certain sense, oil has proven a curse to Mexico. Most of its many revolutions, since 1910, under the guise of patriotism, have been in reality, for the purposes of power and plunder. The stream of "black gold" from the Tampico district was an alluring prize, to attain which the land has been drenched with blood.

Porfirio Diaz, a dictator, if you please, used his power, largely, in developing the resources of the country, building railroads, harbors, etc. When the oil boom came, he enacted just laws, inviting development, only insisting that the Mexican employes should be treated fairly and kindly. Mexico and Mexico's credit were rated highly throughout the world.

When the revolution drove Diaz from the country he left $75,000,000 in the treasury. Today, Mexico is in a deplorable condition. To call it bankrupt is flattering its finances. It owes more than $1,000,000,000. By confiscation and excessive taxation it cannot pay its government expenses. Its credit abroad—it hasn't any. This $1,000,000,000 indebtedness, considering the condition of the two countries is as $75,000,000,000 indebtedness in the United States would be.

There seem to be two courses to meet the emergency: Repudiation or a 50-year moratorium, or, possibly United States, English and French banking houses might come to the rescue with some plan to protect the apparently worthless bonds, railroads and others, which these houses purchased in the time of Diaz. These bonds are only a portion of the country's debt. Foreign property seized amounts to many millions of dollars. Little or no interest on bonds has been paid in 20 years. Claims for at least 1,000 lives of foreigners must be met.

Mexico Could Use a Loan

Bankers could not unload Mexican bonds on a public which considers them worthless, but a loan from them and the present bondholders might be possible; at least that is what is suggested by the constant flow of cables from Mexico City, reiterating what a good fellow Ambassador Morrow is. Hundreds of thousands of Mexicans have fled the country to save their lives or to seek employment across the Rio Grande. So great a menace is this large and constantly increasing swarm to American wage earners and standard of living that Congress in Washington is preparing to enact a law to curb it.

Similar conditions may come to Venezuela with the passing of President Gomez. Conditions are much the same as in Mexico during the closing years of the Diaz regime. There is the same wealth from oil development which could be such a national blessing if rightfully used. But there also is the same bunch of "patriots" ready to stir revolution and flood the country with gore under the popular cry of patriotism, but generally, as far as the leaders are concerned, a fight for control and loot.

Yet, in the commission obtained by the Colombian government to advise in the new petroleum law, the Mexican representative has the effrontery to advocate Mexican oil law as the one adapted to the needs of Colombia. The English, American and even the Rumanian representatives will endeavor to point a different method but they are hampered by international customs which do not permit them to treat facts in plain language and unadulterated truth.

Asleep at the Switch

Central and South America, while the rest of the civilized world moved on, were asleep at the switch. The World War came and went, and Colombia was hard hit by the financial crash. The census of 1919 showed 40,000 out of a probable population of 150,000 in Bogota "without visible means of support." Bank loans were 2 per cent per month; 4 per cent for renewals. Salaries of government employes were many months in arrears. Public institutions, charitable, etc., were without funds. Pensions were impaired. But most alarming was the fact that the military forces were months in arrears.

The crisis was relieved—possibly revolution averted—by the $25,000,000 granted by Congress of the United States to Colombia. This has been regarded as a kind of conscience fund for the part the United States was suspected to have played in the Panama Canal Zone affair. Whatever the ethics of the Panama affair, the result was a great benefit to the world at large, and to Colombia in particular. Never had so large a sum been at its disposal. It solved all current financial troubles and gave an opportunity to join in the general advance which spread throughout the world with improved conditions. The first move had wonderful results. The Kemerrer commission was invited to Colombia and installed a banking system similar to the Federal Reserve. The Bank of the Republic was formed and it has functioned since with great success. Interest is reduced to 8 per cent per annum. Then politics and politicians started after the remainder of the national bank roll. In any other country it might have been likewise. Every senator, every congressman wanted a railroad for his constituency. Colombia certainly needs railroads, but not immediately. Of the seven or eight which were begun, probably not more than one or two would pay expenses for many years if completed.

Good Financial Standing

For the first time in history the country had good financial standing and little loan companies of New York entered in competition to furnish funds. By "little" companies is meant the $200,000,000 or $300,000,000 houses which do not measure up with the billion dollar concerns in the same line. No wonder Colombia went loan crazy.

The two main crops in Colombia are coffee and politics. Of the former, 95 per cent finds a market in the United States. The latter is entirely for home consumption. The loan companies fought each other for the privilege of supplying funds and quite naturally politicians decided the supply was unlimited. National loans, state loans, municipal loans were made and railroads, automobile roads, and other improvements were begun on an enormous scale. New offices were created, salaries were raised and money was squandered in many ways.

The few voices raised in congress in a note of warning were drowned in the general oratorical clamor. The congress passed an impossible law, wherein any company building a pipe line or refinery might eventually get its investment back but in that case the pipe line or refinery became the property of the nation.

The lower house passed a bill calling for a loan of $200,000,000 for the purpose of going into the oil business, nationally. Both houses decided meanwhile to borrow $32,000,000 to continue the work on railroads, etc., also to cancel the Tropical Oil concessions and make a new contract more to the benefit of Colombia. They cancelled anew the Barco Concession.

Then the United States Department of Commerce touched off the bomb that blew up the air castles. The Corless report showed among other things that Colombia was not developing any of its natural resources; that the loans, national, state and municipal amounted to about $225,000,000, calling for about $15,000,000 annually of interest, and that the deficit the last year would amount to $12,500,000. This was a conservative estimate.

Began to Put House in Order

The loans were not forthcoming in the face of these facts. It was not too late to correct the errors if a proper course was pursued, and Colombia began immediately to put its house in order. A determined effort is being made to take the financial affairs from the hands of congress. The heads of the several departments, corresponding to the United States cabinet officers, cut the number of employes to those actually needed. They reduced salaries, and entered into a general plan of economy. A saving of nearly $10,000,000 annually is represented. The public works, railroads, etc., are to be reduced to those really necessary and many extravagances are to be eliminated.

The business brains of the country have taken little interest in politics, holding the professional politician in contempt. In some clubs politicians are not admitted to membership. The emergency calls for a change and there is every reason to believe that these heads of government departments are going into the fight in earnest to save Colombia from financial disaster. Also there is a sprinkling of comparatively young men, who have traveled and mixed in world affairs, who are determined that this country shall keep abreast of the times and not be wrecked by incompetents.

Therefore, Colombia's future is far from hopeless. There will have to be sacrifices, of course. After feasting on porterhouse steaks for several years, it is hard to come to a beans and bacon diet, but that sacrifice can and will be made. The falsity of the idea fostered by certain newspapers for political purposes that Americans come to Colombia to rob and enslave the country must be made clear. The late President Ospina told the writer that this propaganda was wholly political and centered in Bogota. Americans, while not generally favorites, are well treated in every part of Colombia.

The undeveloped or only partly developed resources of the country are:

Agriculture—Colombia has every cli-

(Continued on Page 239)

Oil seepages, Andes foothills near llanos. Mr. Spellacy standing.

Significance of Kettleman Agreement

Postponement of Development of Great Potentially Productive Area of Utmost Importance to the Industry

By L. P. Stockman

LOS ANGELES, Calif., July 20.—One of the most important developments in California during the current year has been the progress made toward curtailing drilling and production activities in the enormous potentially productive Kettleman Hills Field of Kings County by California operators and Secretary of Interior Ray Lyman Wilbur. The significance which attaches to this curtailment agreement lies in the fact that promiscuous development of the prolific Kettleman anticline would undoubtedly upset the apple cart, especially because of the large potential production of high gravity oil testing approximately 60.2 degrees A.P.I. It does not take any stretch of the imagination to contemplate the disastrous effect which unrestricted development in this field would exert on the production and economic structures. Dr. George Otis Smith, representing Secretary of Interior Wilbur, and the committee appointed by operators vitally interested in the Kettleman Hills Field, have arrived at a definite agreement following several months of tedious study and deliberation, and unless something unforeseen develops Kettleman Hills will be taken out of the production picture until July 1, 1931.

The tentative agreement reached by Kettleman Hills operators a few days ago climaxes a long concerted attempt extending over several months to regulate future operations, and is substantially that outlined some 60 days ago. The operators' committee, consisting of Chairman E. D. Reiter, of the Miley Oil Co.; Ellsworth McGowan, Kettleman Hills Oil Co.; W. H. Berg, Standard Oil Co.; W. L. McLaine, General Petroleum Corp.; J. H. Raney and P. N. Longan, Milham Exploration Co., and R. E. Ferguson, independent land owner, and Doctor Smith, went into every angle of the situation, both from a drilling and production standpoint. The curtailment program removing Kettleman Hills as an immediate threat is a mutual two-way agreement between individual operators and the United States Government. The plan as worked out by the operators' committee in conjunction with Doctor Smith, representing Secretary of Interior Ray Lyman Wilbur, calls for the completion of two offsets to the Milham's discovery No. 1 Elliott, which is still flowing 3,200 bbls. of high gravity oil and 75,000,000 feet of natural gas daily. One of these offsets is being drilled by the Standard Oil Co. and the other by the Marland Oil Co. The Milham Exploration Co. will also be permitted to complete one more well on the Elliott lease.

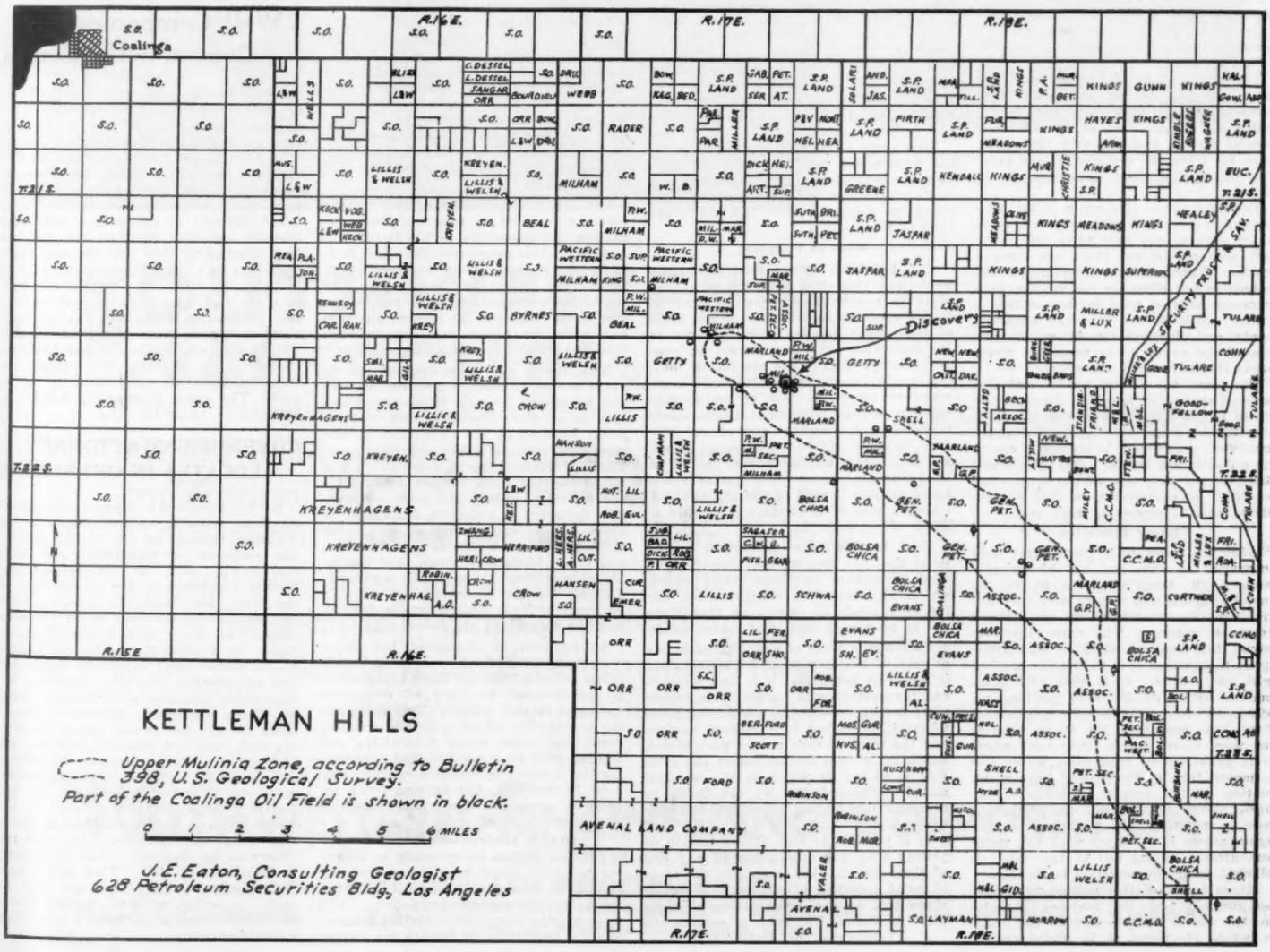
Engineers are of the opinion that the Milham's discovery well cannot be shut in without jeopardizing its condition due to prevailing high gas pressure. It is thought that by completing the three offsets just mentioned that pressure will be reduced on the discovery well to such an extent it can be safely shut in at a later date. It is stipulated that the three wells permitted to drill into completion are being carried down for this specific purpose, and must be equipped with exceptionally heavy equipment to sustain heavy pressure when the time comes to close in all four producers. All three are nearing completion and should be in a position to reduce the pressure on the Milham well within 60 or 90 days if this theoretical pressure reduction can be accomplished. There is some divergence of opinion as to whether three offsets will be sufficient to adequately reduce gas pressure on the Milham's discovery to permit its being closed in, but the committee was unanimous in its recommendation to make this attempt. The Kettleman Hills agreement includes a contingency that if the three wells drilling for the specific purpose of reducing gas pressure on the discovery well fail to accomplish their objective, two of them will be permitted to remain on production. The Milham's projected second completion on the Elliott property must be shut in, but the original discovery, No. 1 Elliott, and the new wells of the Standard and Marland will be permitted to produce.

A total of seven additional wells will be permitted to be carried down to a point agreed upon to prove discovery to the satisfaction of Secretary Wilbur, but will not be permitted to produce in conformity with the agreement reached. In return the Government is pledged to grant both "A" and "B" leases on these permits and also to grant two year extensions on all permits in good standing on which drilling is now in progress. All three domes in the Kettleman Hills anticline have been taken care of in the conservation program mutually sponsored by individual operators and Secretary of the Interior. Operators interested in the middle dome definitely agreed late last month to suspend all operations until January, 1931. The program involving the north and south domes is now in progress of ratification by operators, permittees and other interested parties.

Largest Single Structure

Geologically, the major Kettleman Hills anticline is by far the largest single structure in California, as the entire Kettleman Hills structural line has approximately 200 square miles of drainage area, of which about 150 square miles con-

(Continued on Page 229)



COATING OF METAL WITH CADMIUM, NICKEL, COPPER OR CHROMIUM

When the late Charles Page conceived the idea of building an industrial community around his electric plant and railway system west of Tulsa, little or nothing was thought of the development of a process that is now being housed in a brick structure on the edge of the town of Sand Springs, and known as the Protective Metals, Inc.

Not that this is a new industry, but this plant is the first one of its kind to be built in the Southwest and has for its purpose the coating of metal with cadmium, nickel, copper or chromium, or combinations of these metals in certain instances.

The Udylite process is the basic coating method used in this plant and this process has its home in Detroit where there is a very large plant plating parts for automobiles, as well as material for other industries. Other plants have been erected on the Pacific Coast and in other parts of the country but this is the first one of its kind to be erected south of Kansas City, Mo.

The plant is unique in that it is very compact and the working vats are served by two cranes, one of 2-ton capacity and the other of 1-ton capacity, and both leading out of the building to a loading platform in the rear that is built alongside of a spur of the Sand Springs Railway, so material can be delivered to the building in carload lots if desired.

Operation Described

Along the west side of the building chere is located a set of three redwood vats, each 24 inches wide by 54 inches deep by 30 inches long, and in the first vat there is a bath of sulphuric and hydrochloric acid mixed with 66 per cent water that "pickles" the metal and removes all rust or mill scale and gives it a "bright coat."

The next vat in the series is of the same size and is equipped with three banks of water sprays that can be operated all at one time or in individual tiers as needed, and they very thoroughly wash all traces of the acid or the products of reaction from the metal to be plated.

The next vat in this series is the plating vat and is filled with sodium cyanide which acts as the electrolyte and along each side of the vat there are hung a number of anodes made of cadmium balls in holders and when the low voltage, high amperage current used in this system is turned on it flows from the cadmium anodes and plates that metal on the surface of the article to be protected which forms the cathode of the system.

The plant has a very unique and economical system of handling pieces to be plated by the Udylite process in the form of a 32-foot beam built up out of structural steel shapes that is capable of carrying a distributed load of 8,000 pounds and fitted on the underside with a copper bus bar that is equipped with flat contact plates, also of copper, at each end.

Plating Operation

After the pieces to be plated have been suspended on this bus bar by suitable hangers, the beam is picked up by the traveling crane and carried over the electric lime cleaner vat where all oil and grease is removed. The crane then removes this load of metal to the power spray tank where it is thoroughly washed with clear water. It is then picked up and set down on the acid pickling vat where all rust and mill scale is removed. From this operation, the crane removes the work to the power spray tank where it is again rinsed with clear water and is moved then to the plating tank where plating of the proper thickness is applied. After the plating operation, the work is moved to the power spray tank again where it is rinsed with hot water and after a lifting out of this tank, is allowed to dry immediately in the air.

At each end of this plating vat, there is a grounded plate that matches the plates on the end of the bus bar on the beam, to which the pieces to be plated are attached, and when the beam is lowered and comes to rest upon two steel columns, one at each end of the vat and independent of it, the two sets of copper plates are in contact and the current will leave the bath through this path and return to the ground.

The current used is 6 volts, 2,000 amperes, and is produced in a special Chandeysson motor generator set, that is operated off the Sand Springs Power Co.'s line and generates the direct current needed for these various plating operations. Three of these sets are installed at this plant and all current is carried about the building to the terminals at the various vats through heavy copper bars which give the plant a neat appearance, and are something out of the ordinary in wiring systems.

The current that passes through the cadmium pole pieces causes the balls of that metal to be dissolved and go into solution in the electrolyte, and then flow to the cathode, or piece of metal to be coated, where it evolves hydrogen and deposits the cadmium as a thin layer.

Combination Plating

This, however, is only one operation of which this plant is capable, for chromium plating can also be done, and a combination of nickle, copper and chromium plating is done frequently on small parts where a bright coat is desired.

In this process if a smooth bright coat of chromium is required the pieces to be plated are first treated in an electric bath, that is a hot bath made up of a solvent for oil and grease, through which an electric current is passed, and in this way all oily substances are removed.

These parts do not usually carry rust, but if it is desirable to give them a pickling bath to remove mill scale or iron oxide rust it can be done, but after they have been cleaned to the proper degree by whatever process is deemed necessary they are taken to the polishing and buffing room.

This room is in itself a very interesting department for it is equipped with two direct motor driven polishing and buffing machines and these machines are fitted as required with just the right kind of wheel.

Care in Polishing

For polishing, emery dust is largely used, and this dust is received at the plant in powder form ranging from 60 to 180-mesh in fineness and every grain of this emery powder must be kept in its particular bin for if mixed in even the smallest degree the results in buffing would be disastrous. When it is remembered that the size of an average particle through 60-mesh standard screen is .0087 inch diameter and of the 180-mesh particle .0068 inch diameter it will be seen that mixing these grains of emery or any intermediate grains would cause trouble if used in buffing and polishing a coat of metal that is as thin as .0002 of an inch thick.

Care in this room is carried to the point that the heating pots for the glue used in making up these buffer wheels are divided into five compartments, one for each grade of emery, so that there can be no mixing from that source either.

To follow a piece of metal through this process of bright plating with chromium it would be found that it is first polished and then plated with copper. This copper plate is then returned to the buffing room where it is buffed to a smooth surface and the piece is then coated with nickel, which is in turn buffed before the final coat is plated on which is of chromium and it is also buffed at the finish to complete the plating operation and polishing.

It is possible to stop this operation of plating with the application of any one of these metals, that is to give the piece of metal a coating of copper, or nickel or chromium, or any combination of these platings desired. Thickness of coating can

(Continued on Page 241)

COLOMBIAN CONGRESS EXPECTED TO PASS REASONABLE PETROLEUM LAWS

NEW YORK, July 22.—Favorable developments in the Colombian oil situation are looked for shortly, according to reports received here on the eve of the convening of the Colombian congress for the enactment of special petroleum legislation.

Prominent among these expected developments is restoration of the Barco oil concession, comprising 1,300,000 acres adjacent to the Venezuelan boundary, to the Gulf Oil Co. and the Carib Syndicate. At present, this concession stands suspended, the Colombian Government having declared the concession forfeited because, it asserts, the American owners did not live up to the requirements of the grant.

The Gulf and Carib companies have appealed against the cancellation order, and their case is now before the Colombian supreme court, which is expected soon to hand down a decision favorable to the oil companies.

According to the Colombian legation in Washington, while the exact nature of the proposed petroleum law is not yet made known, it will be more satisfactory to producers and an immediate result of it will be increased activity and production in Colombian oil fields.

Colombia is expected to attain a position of importance in the world petroleum picture as soon as the government of that country enacts oil legislation that will permit foreign owners of Colombian oil properties to go forward with their development. American and British oil companies have large holdings in Colombia, on which they have been deferring development work until various restrictions are either removed or clarified.

Experts Aid in Drafting Law

The Colombian congress, now in session, is expected to deal promptly with the question of petroleum legislation. During the last several months Colombian officials in charge of petroleum regulation have been working on an oil law to be submitted to the congress. In this they have had the co-operation of a committee comprising oil authorities from the United States, Mexico, Rumania and Great Britain.

Officials of the Gulf and Carib companies are reported as most optimistic regarding the restoration of the Barco concession. In this connection, the Carib Syndicate, in its last report to stockholders, said: "We cannot but look forward to the ultimate restitution of the concession. Not to do so would be to deny there is any basis for proper relations between this country and Colombia in the future."

The Barco concession, as a special grant of the Colombian government, will not be subject to any legislation which may be enacted. The concession was ordered forfeited by the Colombian government in February, 1926, and in August, 1928, a further decree of cancellation was issued, setting forth further reasons for the forfeiture. There has been considerable agitation in Colombia during recent years against exploitation of that country's petroleum resources by American and other foreign countries, and the internal situation has made it extremely difficult for the government to adopt a moderate attitude toward outside development in Colombian oil fields.

In addition to cancelling the Barco concession, the Columbian government has taken action at various times antagonistic to the interests of other oil companies operating in that country. Two years ago the government issued a decree outlining conditions under which wildcatting and drilling must be conducted, and providing for the payment of royalties ranging from 8 to 16 per cent, the amount being dependent upon the cost of transporting the oil to seaboard.

Drastic Restrictions Imposed

Foreign companies operating in Colombia accepted these regulations, and development work proceeded until last year, when supplementary regulations, still more drastic, were issued, further restricting the operations of foreign oil companies. The companies have all filed vigorous protests against the restrictions imposed upon their operations, and it is in response to these complaints that the Colombian government is undertaking a revision of its petroleum laws.

The report of the committee of foreign advisers, submitted some time ago to the Colombian government, is expected to form the basis for the new petroleum laws. The Colombian congress will endeavor to frame a law which will guarantee the rights of the government and at the same time protect the financial interests of oil producers.

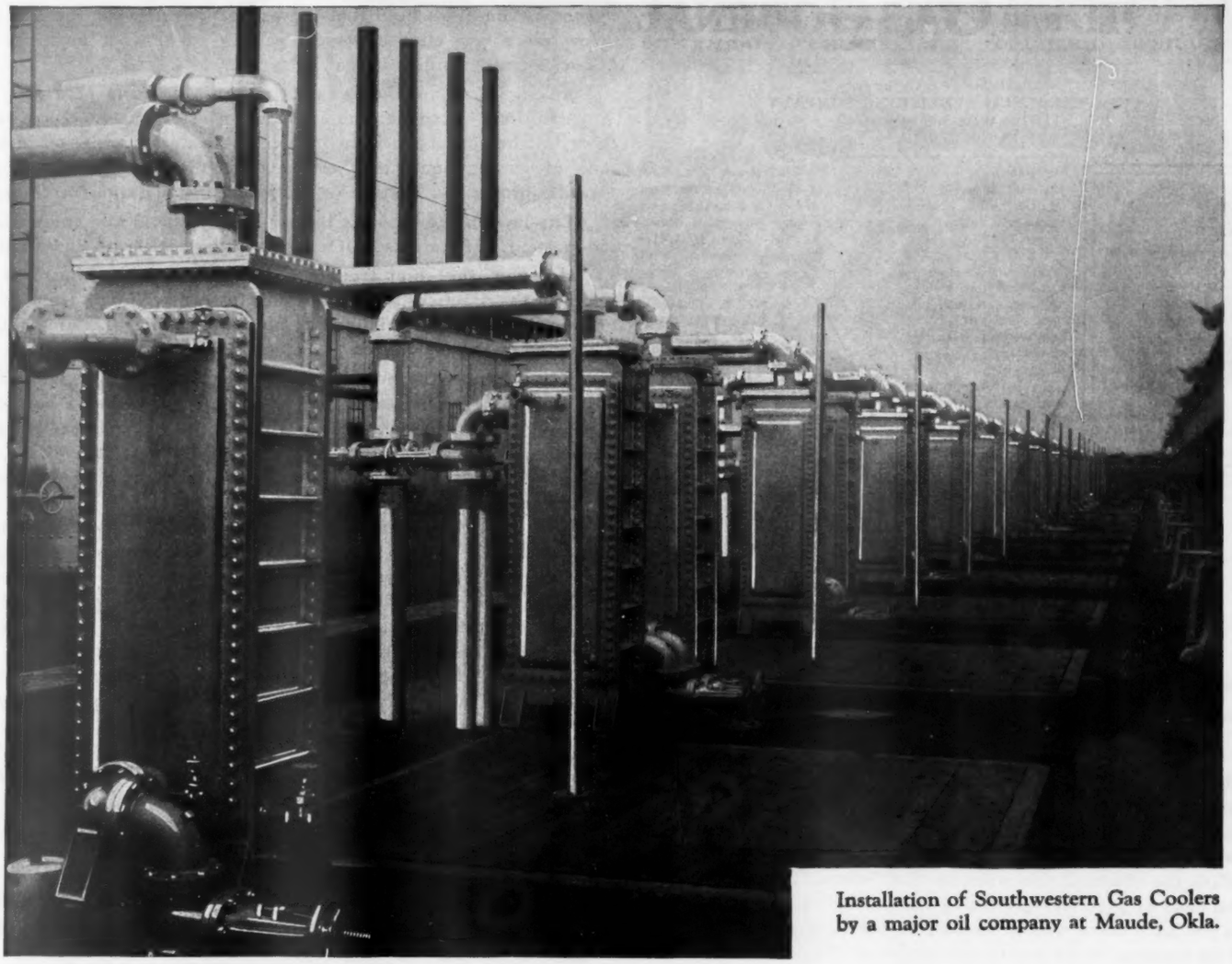
The effect of modification of Colombia's oil laws upon world production is not expected to become apparent at once, although the passage of less drastic regulations undoubtedly will be followed by a general development program on the part of foreign companies operating or holding acreage in Colombia. However, development work in Colombia is expected to uncover still further huge South American oil reservoirs and intensify the problem which has been created for the industry by overproduction of crude oil. While it will take a year or more for new operations in Colombia to be followed by any material gain in the production of that country, such development is certain greatly to aggravate current unsettled conditions in the petroleum industry unless various contemplated conservation plans in this country and abroad are made fully effective by the time Colombia begins to attain the position of a major world factor in petroleum.

Ordered to Shut In Well, Companies Will Contest in the Courts

Litigation is expected to develop from the recent order of the Oklahoma Corporation Commission to shut in the Sinclair Oil & Gas Co. and Amerada Petroleum Corp.'s No. 1 Kinter, NW cor. SE, Section 19-11-2w, Oklahoma County, which has been making from 1,500 to 1,900 bbls. of gasoline and 40,000,000 to 70,000,000 feet of gas daily. After the gasoline has been removed, the gas has been allowed to blow into the air. State Conservation Officer Vaughn, who brought the action to shut in the well as a gas well, gave it as his opinion that this constitutes waste and that to continue it would drain the field of gas. The Sinclair Oil & Gas Co. and Amerada Petroleum Co. say they will oppose the enforcement of the order shutting in the well. The order is effective August 3, 1929.

GOVERNMENT ATTORNEY LOCATES IN OKLAHOMA

B. M. Parmenter, formerly Assistant Attorney General, and at times Acting Attorney General of the United States, has returned to Oklahoma, and with Charles B. Selby at Oklahoma City, formed a partnership for the practice of the law. Mr. Selby for several years has been special assistant to the Attorney General of the United States, conducting in the Federal Courts for the United States Government especially important and complicated litigation involving Indian titles, heirships and mineral rights. Mr. Selby was county attorney of Oklahoma County for several years, conducting both civil and criminal litigation for Oklahoma County. Messrs. Parmenter and Selby by virtue of their connection with the different departments of the United States Government and in the Federal Courts have necessarily gained a wide range of experience that could not otherwise be obtained. They both came to Oklahoma in 1901. Their active participation in public affairs as well as their connection with the United States Government has given them a state-wide acquaintanceship.



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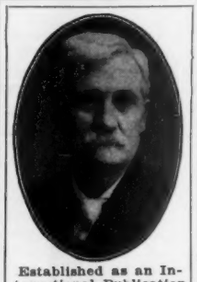

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MEMBER AUDIT BUREAU OF CIRCULATIONS

THE CODE OF ETHICS

Many of the abuses which have crept into the marketing of petroleum products have been condoned by the offenders on one of two pleas, either that "everybody is doing it" or that they did not see anything wrong about it.

With the approval this week by the Federal Trade Commission of the code of practices governing the marketing of refined petroleum products there will be no further basis for any such excuses.

Two features stand out in the report of the commission.

First is the list of official definitions of marketing terms about which there has been considerable confusion that has been one of the reasons for many unethical marketing practices.

The industry now has a yardstick, a standard which will determine just what such terms mean, defining precisely what constitutes a refiner, a jobber, distributor, wholesaler, retailer, or a commercial account.

Sellers and buyers will know exactly what they are talking about.

The other feature is that, while the commission was obliged to eliminate two provisions deemed of doubtful legality, which were desired by the industry as valuable in strengthening the application of the code, the commission did not otherwise condemn a single provision proposed. On the contrary it sought to preserve the industry's resolutions by segregating them into the two groups and approving both.

In the manner of its approval the commission went as far as was expected based on the present laws, as far as needed for the application of the code in the industry and as far as the commission has gone in approving trade practice regulations in any other industry.

The code as approved by the Federal Trade Commission makes a distinction between practices that are illegal and those which have been classed as unfair by between 95 and 97 per cent of the industry at the hearings before the commission in St. Louis last February.

In the first group are included those abuses in the distribution of refined petroleum products which are now clearly set out as violations of existing laws.

In the second are included practices which, while not specifically infractions of any law, are considered unsound business practices by the general verdict of the industry considered as a unit.

There have been in the past some actual violations of the law by unprincipled or unscrupulous concerns and individuals, but the general excuse has been that it was not known what the law was. Now there is a clear statement setting forth what practices the Government considers illegal.

Among these are inducements to break existing contracts, the substitution of products, the use of lotteries or prizes, selling below cost for the purpose of injuring a competitor, manipulation in loaning or leasing equipment, rebating disguised in leasing or subleasing properties, and the juggling of company signs or colors.

The law on these points is now clearly stated and there can be no pretext of ignorance. Offenders can be dealt with summarily.

However, the chief trouble in the oil marketing business has been in the practices which were not in themselves contrary to law but in the practices which, while not actually illegal, were contrary to sound business methods.

For instance, the practice of offering, loaning or giving away all kinds of equipment as a bait to dealers has placed a burden on the industry entirely out of line with the returns from the business. This has included painting, signs, construction of driveways, and rentals for the installation of pumps and tanks, and for the display of advertisements.

The code, as approved by the Federal Trade Commission, includes these practices as branded unfair by the expressed opinion of the industry. Offering special inducements on opening days, selling from tank wagons or trucks, except in emergencies, giving rebates, bonuses, or unusual credit conditions to win over trade, are all included in this category of practices.

The code offers the marketing industry the basis for a system of sound merchandising by the elimination of these practices which have brought it nothing but grief.

Square dealing within the industry on sane and sensible lines such as prevail in most other businesses will justify the formulation and strict application of the new code.

Credit is due the members of the American Petroleum Institute General Committee for the remarkable progress which has been achieved in the comparatively short space of 18 months.

This committee, composed of the chairmen of the regional committees charged with sounding the opinion of the industry on the subject, was met at the outset with widespread skepticism that anything could possibly be accomplished.

Not daunted, the committee, consisting of Messrs. Roy B. Jones, general chairman, P. M. Miskell, R. C. Holmes, Henry M. Dawes, E. T. Wilson and K. R. Kingsbury, persisted in the effort and eventually succeeded in securing the adoption of the code at the meeting of the Institute in Chicago last December.

It was frankly acknowledged by the committee that the code as drafted was far from perfect or even as advanced as it ought to be, but the necessity of having it supported by the bulk opinion of the industry made the compromise necessary.

The result was that the commission was impressed by the fact, as stated in its report, that the code represented the view of between 95 and 97 per cent of the industry. The importance of this showing is seen in the division by the commission of the resolutions into the two classes mentioned.

The practices in Group One, being clearly illegal, can be taken care of by the law. Those practices in Group Two, not in themselves illegal but condemned as unfair by the expressed verdict of the industry, must be eliminated by the applied force of that opinion, now supported by the approval of the Government.

The fact that the Government has accepted these resolutions, which is as far as the Federal Trade Commission can go under the existing laws, is significant. They are recognized as wholesome regulations for the general benefit of the industry and deserve the active and energetic support of everyone engaged in the marketing of refined petroleum products.

The prompt application of the entire code should immediately engage the attention of the industry. The Board of Directors of the American Petroleum Institute is setting an example by calling a meeting for next Tuesday to consider the next step.

A Vast Majority of these Lines are DRESSER Coupled!

A very comprehensive idea of the enormous mileage of natural gas pipe lines operating in the Pittsburgh district is given in the accompanying illustration.

A vast majority, possibly in excess of 90%, of these lines are Dresser Coupled and some of them have been in service for nearly forty years.

S. R. Dresser Manufacturing Company
Bradford, Pennsylvania

DRESSER COUPLINGS DOMINATE

White Star Operating Detroit Plant

Modern 6,000-Bbl. Refinery Built in Six Months First in That Area. Interesting Features in Design

By C. O. Willson

The White Star Refining Co. has completed and is now operating its 6,000-bbl. refinery at Trenton, Mich., 17 miles from the center of Detroit.

As the industry's newest refinery it incorporates many of the latest developments in plant construction as designed by manufacturers of refinery equipment under the direction of the White Star company, a veteran refinery organization which for several years has operated a 5,000-bbl. refinery at Wood River, Ill. As now operated the new refinery will secure all the products obtainable from crude oil in a well balanced skimming and cracking operation.

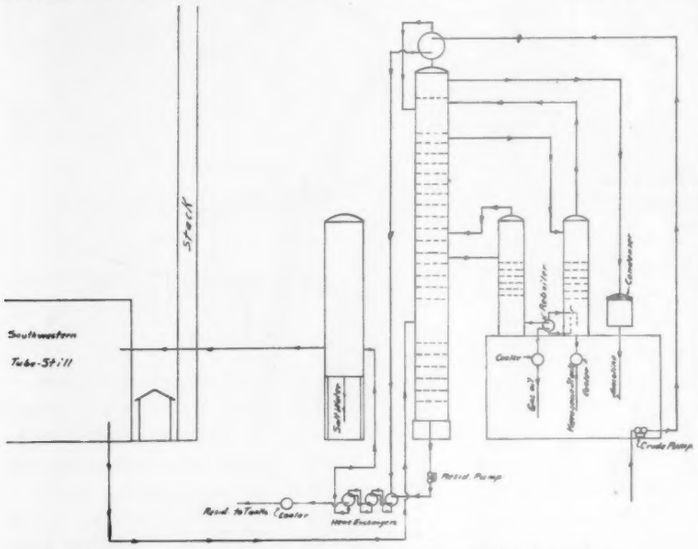

Diagram 1—Flow chart of crude distillation unit at White Star refinery.

Aside from the manufacturing features the refinery is of interest as indicative of a trend in new refinery construction which has been particularly noticeable in new construction this year. All of the larger plants this year including those under construction have been built with the consuming market rather than the crude oil supply determining the plant location.

The White Star refinery is the first to be built in the Detroit area, one of the largest consuming sections in the United States. This consumer outlet applies not only to gasoline and lubricating oils but also fuel oil, gas oil and furnace oils with a large kerosene consumption in the agricultural sections of Michigan and adjoining states. The closest major refining areas are Chicago and Toledo, Ohio. In addition, one small plant is operated by the Standard Oil Co. of Indiana at Saginaw, Mich., with three skimming plants under construction at Muskegon, Mich. The new refinery is thus in a position to distribute in close-in territory with a minimum of transportaton charges. The White Star company for several years has had company-owned distributing facilities in Detroit and nearby points. It is said that this distribution alone will require annually 50,000,000 gallons of gasoline. Based on gasoline tax reports the consumption of gasoline in Michigan will total around 650,000,000 gallons in 1929 and a large part of this consumption will be in Detroit and an area within a radius of 75 miles.

Water Transportation

In regard to transportation, the White Star refinery is located 4 miles from the Detroit River, a part of the Great Lakes system which is receiving more and more consideration by refiners as an economical means of shipping plant products. With the completion of inland waterway development now under way some observers believe the day is not far distant when the Great Lakes system will not only furnish transportation for refined products but will also enable refiners to secure their crude oil supplies from the Southwest, California and South America via the east coast or Mississippi River. The White Star refinery is in a position to use water transportation whenever deemed expedient by the management. The Detroit River also furnishes the water supply for plant operation. The plant adjoins the Detroit, Toledo and Ironton Railroad which was recently purchased from Henry Ford by the Pennsylvania railroad.

Rapid Construction

Built within a period of six months, the White Star refinery is indicative of the rapid construction obtainable in the installation of modern refinery equipment. Contracts for erection of the refinery were not let until after the first of the year and actual construction did not start until about February 1. The contracts called for the completion of work by July 1 and the plant was ready to operate the first week of July.

The construction of a refinery of similar crude oil and cracking capacity a few years ago would have required more than a year. The fact that such a plant can be built in the same time required to drill some of the deeper wells is due to the fact that most of the refinery equipment is fabricated and partially assembled at the plants of the equipment manufacturers. With the foundations completed the equipment can be quickly installed on arrival at the plant site. Much of the White Star equipment such as the coolers and heat exchangers is semiportable. The large condenser boxes and other cumbersome equipment of the old type refinery is conspicuous by its absence.

Crude Supply

At present the Trenton refinery is one of the customers of the Prairie Oil & Gas Co. The crude comes from the Mid-Continent via pipe lines of the Prairie Pipe Line Co., Illinois Pipe Line Co. and the Buckeye Pipe Line Co. The latter company connected to the plant from its trunk line extending from Ohio to the Canadian border. The refinery started operations on a basis of 5,000 bbls. daily.

Modern Plant

In building a new plant the White Star management achieved the ambition of every refinery operator. The average operator is faced with the problem of constantly modernizing his old plant, a herculean task in these days of constant improvement in refinery processing. The rebuilding programs at best are generally makeshift arrangements in which the old equipment has to be adapted to new methods with results which the operators believe could have been improved if new equipment had been used exclusively.

The White Star plant is new from the crude oil storage tanks to the loading racks. Briefly described it consists of two crude oil distillation units each having a capacity of 3,000 bbls. daily, two 1,500-bbl. Dubbs cracking units, a 3,300 rerun still to handle pressure distillate with all the necessary auxiliary equipment including a power plant, the whole representing an expenditure of $3,000,000. The plant is located on a 60-acre site at Allen and West Roads. A large brick building has been erected to house the refinery offices.

The refinery has been operating only a few days and data on yields and many of the operating features are not yet available. The following description is confined to the crude distillation and rerun units. These units were installed by the Southwestern Engineering Corp.

Crude Distillation

The two 3,000-bbl. crude distillation units are exactly the same in design and may be operated to secure gasoline, naphtha, kerosene, distillate and gas oil as overhead products. The overhead streams at present constitute about 50 per cent of the crude charge with a fuel oil residuum which is used as charging stock for the cracking units.

The crude stills in general follow the design of Southwestern equipment which has been installed at other plants operating on similar grade crude oils. It is designed to secure efficient heat exchange with auxiliary flash towers to supplement the work of the main combination evaporator and fractionating tower. The control is largely automatic. (Diagram 1.)

Crude oil from the storage tank is first pumped through a reflux condenser at the top of the fractionator. The crude then passes to a series of heat exchangers where it is further preheated by the fuel oil residuum from the bottom of the evaporator. The crude has then been preheated to a temperature of from 250 degrees to 275 degrees Fahrenheit and is discharged into a 6-foot by 25-foot dehydrator where water drops out and is removed from the operation. The crude is then discharged direct to the tube still where it is brought to the desired temperature for fractionation. At present this is approximately 550 degrees Fahrenheit.

The crude is then discharged above the stripping sections of the evaporator as shown in the accompanying flow chart. Vapors pass up to the bubble cap sections of the rectifying or fractionating column while the residuum is removed to storage through the heat exchangers. The combination evaporator and rectifying column is 5 feet by 54 feet. Finished end-point gasoline is taken from the top of the tower as the main overhead stream. Control of this stream is secured automatically. This is obtained by temperature control at the top of the tower which determines the flow of the crude oil through the reflux condenser previously mentioned. The excess crude oil charge by-passes the reflux exchanger.

The second stream is kerosene stock and the third gas oil. Two 4-foot by 14-foot flash towers are used in the final fractionation of these products. From one of the upper trays in the rectifying column a stream is removed which is flashed in the first tower. The temperature of the stream is increased by means of a reboiler with the gas oil from the other flash tower as the heating medium.

In this flashing operation the light vapors are returned to the rectifying column for further fractionation. The flash tower for the gas oil operates in a similar manner except there is no reboiler. The gas oil is run to storage from the base of the second flash tower through the reboiler of the first tower. The light vapors are returned to the main fractionator.

The operation is flexible and could be changed to satisfy practically any operating condition. As previously stated no attempt is made at present to secure the maximum overhead yield of gas oil. Closed type condensers are used for all the overhead streams.

Rerun Still

The rerun still (Diagram 2) is similar in many respects to the crude distillation units. It is designed to refine 3,300 bbls. daily of pressure distillate from the Dubbs cracking units. The charging stock from storage first passes through a reflux condenser at the top of the fractionator or rectifying column. It then passes directly to the tube still where it is brought to the required temperature and is then discharged at the top of the stripping sections of the evaporator. The gasoline vapors with automatic reflux control—the same as in the crude distil-

(Continued on Page 229)

View of Detroit refinery of the White Star Refining Co. showing compact design. On left are Dubbs cracking units with crude distillation and rerun units in center and right.

If Dubbs Cracked gasoline would really cost 2c per gallon more to produce than Straight Run, instead of costing substantially less, it would be well worth the difference on account of its improved anti-knock quality

Universal Oil Products Co
Chicago, Illinois

Dubbs Cracking Process
Owner and Licensor

MUSKEGON HAS FOUR GOOD WELLS; 500-BBL. WELL IN MT. PLEASANT FIELD

By Special Correspondent

MUSKEGON, Mich., July 20.—Four of the best wells completed in the Muskegon, Mich., field were brought in last week in Muskegon and Laketon Townships. They accounted for about 90 per cent of the 8,310 bbls. a day initial added by the 9 new wells completed.

Four new locations, two in Muskegon Township and two in Laketon Township, indicated that drilling is far from completed in the Muskegon Field to say nothing of possible deeper drilling that would be started by the successful completion of the Johnson Oil Refining Co.'s deep test to 3,500 feet on the Kate Sovacool property in Laketon Township.

The largest of the new completions was the Rock Oil Co.'s No. 1 W. P. Dinan, NE SE Section 11-10-17, Laketon Township, which made more than 100 bbls. an hour initial in the Dundee sand at 2,051-53 feet. It also had an estimated flow of between 3,000,000 and 5,000,000 feet of gas.

The Royal Oil Co.'s No. 2 Albert Young, SE NE Section 12-10-17, Laketon Township, came in at 2,034-43 feet, making more than 80 bbls. an hour.

Neely, Forster & Senn brought in a 1,500-bbl. initial well on the Harry Hewitt lease, SE NE Section 12-10-17, at 2,014-16 feet.

The Ohio Producing & Refining Co., or East Ohio Gas Co., brought in a 400-bbl. initial well on the Eva D. Malone fox farm property, SW SE Section 12-10-17, at 2,031-38 feet.

The one dry hole was located in Laketon Township and set the north boundary of the field at this point about a quarter of a mile south of the county gravel road leading west of Giles corner on the line between Sections 1 and 12, Laketon Township. It was Maire-Caswell-Kidder, Trustees' No. 4 Mathilda Shuler, NW NE Section 12-10-17. Bottom water with a small show of oil and gas was struck at 2,070 feet.

The largest new well in Muskegon Township is the Muskegon Oil Corp.'s No. 4 John Yonker, NE NE Section 7-10-16, which came in making 65 to 70 bbls. an hour.

The Muskegon Oil Corp. also brought in another new producer on the Stanley Daniloff lease, SW SW Section 5-10-16, flowing 300 bbls. initial by heads with scarcely enough gas to flow from Dundee pay sands at 2,025-27 feet.

Of the two small upper Traverse oil wells the Johnson Oil Refining Co.'s No. 3 Frank Cihak, NE NE Section 12-10-17, Laketon Township, made about 90 bbls. on the pump. The Peerless Oil & Gas Co.'s No. 1 Thomas Gimino, SE NE, may make a 20-bbl. pumper or less in the upper Traverse.

One of the two new locations is the Continental Gas & Oil Co.'s No. 16 well on Continental Motors Corp. property, SE NE Section 22-10-16, Muskegon Township. The Muskegon Oil Corp.'s No. 7 Stanley Daniloff well, SE SW Section 5-10-16, will be ready to start drilling this week. Nelson and Witt, Inc., are rigging up for No. 3 Richard Andree, NW SE Section 12-10-17, Laketon Township, and Neely, F. Foster & Senn will soon be moving to No. 4 K. T. Murphy, NE NE Section 12-10-17.

The Pure Oil Co. brought in the twenty-fourth producer in the Mount Pleasant Field last week and the Athens Oil & Gas Co. got two dry holes in Section 14 of Chippewa Township.

The new Pure well is No. 2 Laura E. Root, NW SE, Section 18-14n-2w, Green-

(Continued on Page 241)

Late News From the Fields

OKLAHOMA

The most important feature of the week in Oklahoma field news was the finding of the Wilcox sand productive by the Sinclair Oil & Gas Co. and McGraw Oil Co.'s No. 1 Kelly, in the NE cor. NW NE, Section 2-7-4, Pottawatomie County. It made 1,270 bbls. in 12 hours from the Wilcox sand at 4,328-35 feet, and on a later gauge it was making 90 bbls. an hour. Several Wilcox sand tests have been drilled in the vicinity but most of them have been either small oil wells or water wells.

The production of Greater Seminole area over the week end shows an increase over 6,000 bbls. The gauge of the field was 380,010 bbls. on Monday morning, July 22. The gauge of the pools follow:

Pool—	Bbls.
Little River	80,762
Carr City	14,380
Maud	11,371
Mission	31,765
Bowlegs	34,811
Earlsboro	82,726
Seminole	32,747
East Seminole	5,514
Searight	11,475
Total	305,551
St. Louis	74,459
Grand total	380,010

The Mid-Continent Petroleum Corp.'s Smith lease in Section 5-7-7, South Little River Pool, in Seminole County, produced 15,200 bbls. from eight completed wells on Monday, July 22.

Magnolia Petroleum Co.'s D. W. Anderson lease in Section 18-9-6, in the southeast extension to the Earlsboro Pool in Seminole County, made 16,351 bbls. from five wells on the gauge of July 22.

Wirt Franklin Petroleum Corp.'s No. 1 Spain, SW cor. SE NW, Section 9-2s-6w, Stephens County, made 475 bbls. on Monday of this week, and is also showing between 5 and 6 bailers of water. The test will be put on the pump. Wirt Franklin Petroleum Corp. has made location for No. 1 Brooks, SE cor. SE NE, Section 8-2s-6w, Stephens County; No. 1 Bonner, NW cor. NW SE, Section 9-2s-6w, and No. 1 Green, NW cor. SW NW, Section 9-2s-6w. The Magnolia Petroleum Co. has made a location for No. 1 Andera, C NE cor. SE NE. Section 8-2s-6w.

The gauge of the Oklahoma City Pool on July 23 was 22,838 bbls. from eight wells, which is about even with the previous day's production. Gauge by companies follows:

	Bbls.
Coline	4,613
I. T. I. O.:	
Button	1,350
Fee	1,996
Watters	705
Mid-Kansas:	
No. 1	4,560
No. 2	3,369
Sinclair:	
Stamper	4,665
Kinter	1,580
Total	22,838

NORTH TEXAS

FORT WORTH, Tex., July 23.—Kewanee O. & G. Co.'s No. 6 B. Hyman on southwest edge of Bulcher Pool, Cooke County, in E.T. Railway Survey No. 5, Abstract 363, encountered pay at 1,318 feet and shut down at 1,466 feet, flowing 200 bbls. per hour of 41.8 gravity oil, the best well in the pool to date. The gravity of Phillips' No. 1 Whitten in Schleicher County is 32 degrees. It has 600 feet of oil and 100 feet of water in the hole. Casing is being set to shut off the water above.

GULF COAST

HOUSTON, Tex., July 23.—Union Sulphur Co.'s No. 747 fee, Sulphur Dome, Calcasieu Parish, Louisiana, was com-

(Continued on Page 241)

High Spots in Field News

GULF COAST

Gulf Production Co. test at High Island proves best well of week.

Lake Pelto Dome, Terrebonne Parish, proved up by well spraying 2½ bbls. hourly.

Union Sulphur Co.'s No. 747 fee, Sulphur Dome, Calcasieu Parish, Louisiana, was completed flowing 1,000 bbls. of pipe line oil daily from sand at 2,797 feet.

Gulf Production Co.'s No. 8 Cain, east side of Pierce Junction, Harris County, came in flowing an estimated 2,000 bbls.

Pure Oil Co.'s No. 3 Mayes, wildcat on the Lost Lake Dome, north Chambers County, tested salt water in sand at 2,121-52 feet and is to be deepened.

WEST TEXAS

Showing in wildcat in Schleicher County. Irion County well slumps. Crockett County well shows sulphur water.

Mid-Kansas-Transcontinental companies' No. 30 Yates flowed 769 bbls. in first 24 hours from 278 feet, but later pumped only 120 bbls.

Glasscock County test not showing as expected.

SOUTHWEST TEXAS

A. G. Kieffer's No. 1 B. B. Dix, 4 miles southeast of The Texas Company's No. 1 Dallas Wilson, Guadalupe County, developed gas that blew out through the mud. The No. 1 Dallas Wilson, swabbing 52 bbls. an hour, has opened a new pool in the Edwards lime in the Luling area.

OKLAHOMA

Oklahoma City Pool exceeds 25,000 bbls. and wells near completion should increase total. Sasakwa showing water and production declines.

Wilcox sand found productive in Pottawatomie County by Sinclair and McGraw test.

NORTH TEXAS AND PANHANDLE

Young County may have new deep pay pool. Barnsdall corporation has promise of new discovery in Moore County, Panhandle. Bryson Pool deep well flowed 56 bbls. Coleman County continues most active.

NEW MEXICO

Jal district well of The Texas Company is averaging 1,500 bbls. a day. Cranfill & Reynolds' well, 9 miles north, has 2,000 feet of oil in hole and making 1,000,000 feet of gas.

NORTH TEXAS

Humble company's No. 6-B Hyman in Bulcher Pool, Cooke County, is flowing 175 bbls. an hour of 41.8 gravity oil, best in pool.

KANSAS

Well in townsite of Greenwich, Sedgwick County, flowing at rate of 50 bbls. an hour. State production mounting steadily.

ROCKY MOUNTAIN AREA

Wellington Dome has been extended nearly half mile west. Iles Dome well made 108 bbls. initial.

NORTH LOUISIANA

Chance of extending Dixie district. Richland Parish Field anomalies puzzle operators.

A.P.I. WEEKLY REFINERY STATISTICS

NEW YORK, July 23.—The weekly report made to the American Petroleum Institute on refinery statistics—crude runs to stills, gasoline stocks and gas and fuel oil stocks—for the week ending July 20 follows:

	(1)	(2)	(3)	(4)
East Coast	100	3,132,800	5,120,000	10,540,000
Appalachian	84.7	631,400	1,062,000	1,094,000
Indiana, Illinois, Kentucky	96.1	2,078,800	6,230,000	3,418,000
Oklahoma, Kansas, Missouri	76.3	1,775,000	3,625,000	4,748,000
Texas	87.8	3,814,100	4,891,000	12,646,000
Louisiana and Arkansas	88.2	1,129,100	1,776,000	5,556,000
Rocky Mountain	92.3	495,900	1,794,000	649,000
California	94	5,032,000	11,504,000	103,274,000
Total United States	90.9	18,089,100	35,992,000	141,926,000
Texas Gulf Coast	99.3	2,969,100	4,013,000	9,778,000
Louisiana Gulf Coast	100	847,600	1,585,000	4,675,000

(1) Per cent refinery capacity represented. (2) Crude runs to stills. (3) Gasoline stocks. (4) Gas and fuel oil stocks.

The Beauty of TRANSIT TONGS

THE beauty of TRANSIT TONGS is that they are the only genuine Klein tongs, and are made just as Mr. John S. Klein designed them, while he was superintendent of our works many, many years ago.

The tool steel lined hook, the oversize rivet supported at each end, extra heavy hand forged construction and the painstaking location of the bit to get just the proper bite are all features of TRANSIT TONGS.

Manufactured only by the National Transit Pump & Machine Co., Oil City, Pa. District Offices at New York, Philadelphia, Pittsburgh, Cleveland, Houston, Tulsa, Los Angeles.

Okla. City Pool Exceeds 25,000 Bbls.

Wells Are Close to Completion Which Should Increase Total. Sasakwa Showing Water and Production Declines

By W. A. Spinney
Staff Correspondent, Oklahoma Fields

The attention of Oklahoma operators is centered on the Oklahoma City Field where wells are nearing the sand and production is increasing steadily. Some of the wells the past week increased their production while others are expected to reach the pay horizon any day. It has been definitely established by the majority of geologists in the field that the producing horizon is the Siliceous lime. This fact became known by the examination of samples from the Mid-Kansas Oil & Gas Co.'s No. 1 Fortson well, which is the deepest well in the field and is producing from 6,570 feet.

Another well that has increased its production this week in the field is the Indian Territory Illuminating Oil Co. and Foster Oil Co.'s No. 1 Button, SW cor., Section 19-11-2w, Oklahoma County, the flow has increased steadily to approximately 48 bbls. an hour from a total depth of 6,452 feet. Plans are being made to drill deeper. The same company's No. 1 Waters, NE cor. NW NE, Section 25-11-3w, was opened up and made 225 bbls. of gasoline in 14 hours through its connections to the separators. Later it made 1,215 bbls. in 24 hours.

Two drilling wells on the east side of the field found small showings of oil the latter part of last week. The Prairie Oil & Gas Co. and Tom Slick Oil Co.'s No. 1 Hiddleston, SW cor. SE, Section 19-11-2w, Oklahoma County, had a stronger showing of oil at 6,236 feet. The test also had a small show at 6,220 feet. The crew expects to drill into the big pay in a few days with rotary tools, making it the second test in the field to do so. The Shell Petroleum Corp.'s No. 2 Petty, found a good showing of oil at 6,221-29 feet, but with deeper drilling in the lime the oil show declined. It was drilling at 6,259 feet.

The output of the field was increased on Saturday when the Mid-Kansas Oil & Gas Co.'s No. 1 Fortson, C SE NE, Section 24-11-3w, was drilled into the big pay at a total depth of 6,586 feet, making it the deepest producer in the Oklahoma City Field. The production of the well jumped from 77 bbls. an hour to 160 bbls. an hour.

Three wells were spudded during the week and more are expected to get under way in the near future. The Coline Oil Co.'s No. 1 Clauer, in the NE NE SE, Section 25-11-3w; Indian Territory Illuminating Oil Co. and Foster Oil Co.'s No. 3 Trosper, SE cor. SW, Section 13-11-3w; and Mid-Kansas Oil & Gas Co.'s No. 4 Fortson, NW cor. NE, Section 24-11-3w, were spudded. Prairie Oil & Gas Co.'s No. 2 Hiddleston, SE cor., Section 19-11-2w, was landing surface pipe at 234 feet, the same company's No. 3, SW NW SE, Section 19-11-2w, is drilling at 1,975 feet.

Production Dropped One Day

The Oklahoma City Pool produced 25,185 bbls. on the gauge of July 21 and then dropped to 22,944 bbls. on the gauge of July 22. The cause of the sharp decline could not be explained. The Mid-Kansas Oil & Gas Co.'s No. 2 Fortson, which produced 5,575 bbls. on the gauge of July 21, fell off to 4,016 bbls. the following day and the Sinclair Oil Co.'s No. 1 Stamper slumped from 5,565 bbls. to 4,555 bbls. The gauge on July 22 was as follows: Indian Territory Illuminating Oil Co.'s No. 1 fee, the discovery well, 1,953 bbls; same company's No. 1 Button, 1,167 bbls.; Mid-Kansas Oil & Gas Co.'s No. 1 Fortson, 3,822 bbls.; same company's No. 2 Fortson, 4,016 bbls.; same company's No. 1 Waters, Section 24-11-3w, 1,215 bbls. of gasoline; Coline Oil Co.'s No. 1 Olds, 4,636 bbls.; Sinclair Oil & Gas Co.'s No. 1 Stamper, 4,555 bbls.; same company's No. 1 Kinter, 1,580 bbls. of gasoline. The only wells in the pool that are making water are Sinclair Oil & Gas Co.'s No. 1 Stamper, and Indian Territory Illuminating Oil Co.'s No. 1 fee, the discovery well.

Eight tests are nearing the pay horizon in the lime and the majority of these tests should be deep enough to show results in the next two weeks.

Some of the deep drilling tests are the Magnolia Petroleum Co.'s No. 1 Noble, C NW SW SW, Section 30-12-2w, drilling the plugs after landing the 7-inch casing at 6,257 feet; Indian Territory Illuminating Oil Co.'s No. 1 Hemming, C NE SW SE, Section 24-11-3w, drilling plugs after setting 7-inch casing at 6,256 feet, total depth 6,480 feet; same company's No. 2 Bodine, SW cor. NE SE, Section 24-11-3w, is drilling at 6,366 feet; same company's No. 1 E. Joyce, C NE NE, Section 25-11-2w, drilling at 6,352 feet; same company's No. 1 Johnson, C NE NE NW, Section 25-11-3w, running casing at 6,349 feet; same company's No. 1 Fizzell, Section 19-11-2w, drilling at 6,208 feet; same company's No. 1 S. Bodine, NW cor., Section 30-11-2w, drilling at 6,330 feet, in lime; Mid-Kansas Oil & Gas Co. and Ramsey's No. 1, C NE NE NW, Section 19-12-1w, drilling at 6,010 feet.

Water in Sasakwa

The next field in importance is the Sasakwa area which is disappointing to the operators on account of the water showing in some of the completed wells. The production is declining and on the gauge of July 20, it was 9,308 bbls. from seven wells. Two of the wells are cutting the oil; one has stopped flowing and another is pinched in. Sinclair Oil & Gas Co.'s four wells on the Davis made 7,492 bbls. on the July 20 gauge; Shell Petroleum Corp.'s No. 1 Holutka, 1,453 bbls.; Prairie Oil & Gas Co.'s No. 1 Patton, 225 bbls. and stopped flowing; Signal Oil Co.'s No. 1 Bond, 138 bbls. pinched in. Owing to the small amount of sand the decline in production of the Signal Oil Co. well has been very rapid. It had Wilcox sand at 4,162-63½ feet, it is now pinched to about 150 bbls. a day. The same company has three rigs up on this lease and is starting to drill on two of these locations. Other tests in the vicinity will not be drilled until more is known of the possibilities of the pay sand.

The Prairie Oil & Gas Co.'s No. 1 Patton, NW cor. NE, Section 18-6-8, in the Sasakwa Pool, was drilled into the Wilcox sand from 4,097-4,105 feet, and it made as high as 1,870 bbls., but starting cutting 3 per cent, it was later plugged back to 4,102 feet, and still unable to get a water shutoff. The well was then making 1,000 bbls. of fluid, and cutting 22 per cent. Since then it has quit flowing. It is the most southeasterly producer in the field. The production of Signal Oil Co.'s No. 1 Bond, SW cor. NE, Section 13-6-7, by days is: July 13, 860 bbls.; July 14, 322 bbls., partially pinched; July 15, 940 bbls., open; July 16, 372 bbls.; July 17, 150 bbls., pinched; July 18, 290 bbls., pinched; July 19, 139 bbls., pinched. The well is a mile southwest of the main part of the pool. It came in about three weeks ago with an initial production of 1,100 bbls.

The Asher Pool has had an exciting week, one well caught fire following a gas explosion, while the well was being swabbed. It burned for several hours and was later controlled by the use of steam. The Commercial Development Co.'s No. 1 Townsite is rebuilding the rig after the fire. The other townsite well, the Texola Oil Co.'s No. 1 is making 500 bbls. of oil and 1,000 bbls. of water from Viola lime at 3,670-80 feet. The total production from the pool on July 20 was 11,967 bbls. from 16 wells. The Commercial Development Co. has a rig up on Block 67 in the townsite of Asher. A wildcat test several miles south of the Asher Pool is building the rig. It is owned by H. Sikes and others, No. 1 in the SW cor. NW NE, Section 36-6-3, Pottawatomie County.

The Homa-Okla Oil Co.'s No. 1 Newsom, SE cor. NE NE, Section 16-5-3, Pontotoc County, a wildcat test 10 miles southeast of the Asher Pool, had a small showing of oil at 2,670-78 feet, after cementing the 8-inch casing at 2,660 feet. It is drilling deeper.

Another wildcat test being drilled northwest of the Asher Pool is Shaffer Oil & Refining Co. and Margay Oil Corp.'s No. 1 Adams, NE cor. Section 11-6-3, Pottawatomie County, drilling at 3,475 feet and nothing showing.

In the main part of the pool Simms Oil Co.'s No. 3 Laster, SW cor. NE NE, Section 19-6-4, Pottawatomie County, caused renewed interest in the Asher Pool when it found the Viola lime at 3,610-28 feet and produced 4,120 bbls. on July 16. It is now making 3,500 bbls.

In Township 7-4

Keister & Manning's No. 1 Kelly, SE cor. NE NE Section 2-7-4, Pottawatomie County, is the fifth test to reach the Wilcox sand in that area. It had Wilcox sand at 4,215-16 feet, where it swabbed 60 bbls. of oil which is mostly coming from the Simpson. No increase was noted in the Wilcox sand. The test was running higher on the top of the Wilcox sand than any other in the field.

Phillips Petroleum Co.'s No. 1 Grace, NE SE NE Section 2-7-4, had 2,000 feet of water in the Wilcox sand at 4,260-69 feet. The owners then plugged back to the Simpson at 4,246 feet. After a shot of 80 quarts it swabbed 100 bbls. Same company's No. 2 Grace, SE cor. NE Section 2-7-4, had 3,500 feet of water in the hole from Wilcox sand at 4,410-30 feet.

(Continued on Page 94)

WILDCAT OPERATIONS IN OKLAHOMA

(Descriptions are East and North unless marked otherwise)

NORTHERN OKLAHOMA

ALFALFA COUNTY

Company, farm and location—	Remarks:
Smith Bros.' No. 1 Forbes, SE cor. NW NW Sec. 12-27-11w	Shut down 425 ft.
Washoma Oil Co.'s No. 1 Acre, SW cor. NE Sec. 14-24-11w	Rig.

BECKHAM COUNTY

Kay and others' No. 1 Martin, C E half E half NW Sec. 32-8-24w	Rig.
F. Coogan's No. 2 Holmesburg, SE NW Sec. 25-9-25w	Drlg. 2,600 ft.
Producers Exploration Co.'s No. 1 Seidell, SE cor. SW SW Sec. 17-9-22w	Shut down 2,402 ft.
Carson and others' No. 1 Danby, SW cor. SE NE Sec. 20-8-22w	Shut down 1,547 ft.

BLAINE COUNTY

Lowen and others' No. 1 Unknown, NW cor. SW NW Sec. 27-16-11w	Spudded and shut down; renewing leases.
Washoma Oil Co. and others' No. 1 Phillips, C NW SW Sec. 13-19-10w	Drlg. 2,100 ft.

CADDO COUNTY

Abernathy & Brown's No. 1 Horton, SE cor. Sec. 8-6-13w	Shut down 535 ft.
J. B. Bailey's No. 1 Hubbard, C NE NW Sec. 1-10-6w	Shut down 150 ft.
W. J. Hartley's No. 1 Galbreath, SE cor. NW SE Sec. 29-5-12w	Shut down 3,394 ft.

CLEVELAND COUNTY

Daniels & LeWright's No. 1 Vandever, C SW Sec. 15-7-1w	Shut down 3,130 ft.
Phillips Pet. and T. B. Slick's No. 1 Sudick, NE cor. NE Sec. 8-10-2w	Drlg. 6,950 ft.

COAL COUNTY

Indian Territory Illuminating Oil Co.'s No. 1 Harris, SE NE Sec. 10-1-11e	Shut down 1,975 ft.
W. E. McGraw's No. 1 King, C SW NE Sec. 11-1-8e	Drlg. 1,585 ft.
Indian Territory Illuminating Oil Co.'s No. 1 Cook, SW cor. NW Sec. 10-1-11	Drlg. 7,655 ft.
J. S. Cosden's No. 1 Richardson, NW cor. NE NE Sec. 6-2-8	Drlg. 1,900 ft.
McGinley & Sigler's No. 1 Willsey, NW cor. SE SE Sec. 7-2-8	Drlg. 1,220 ft.
E. W. Whitney's No. 1 Brown, C SE NE Sec. 10-2-8	Shut down 202 ft.

COMANCHE COUNTY

Muse et al's No. 1 Cross, NW SW SW Sec. 4-1-9w	Drlg. 1,930 ft.
Green and others' No. 1 Wilson, C NE SW Sec. 14-1-12w	Shut down 4,055 ft.

CREEK COUNTY

Shaffer et al's No. 1 Moore, SW SE SE Sec. 3-18-9	Drlg. 890 ft.

CUSTER COUNTY

W. E. Witt's No. 1 Wellman, C SE Sec. 1-14-14w	Rig and tools.

GARFIELD COUNTY

E. L. Love and others' No. 1 White, SE cor. NW Sec. 9-24-6w	Drlg. 5,566 ft.

GRADY COUNTY

J. V. Bailey's No. 1 Hubbard, C NE NW Sec. 1-10-6w	Spudded and shut down.
J. M. Henry and others' No. 1 Abraham, SE cor. NW Sec. 4-5-8w	Rig.

GRANT COUNTY

Bailey's No. 1 Stover, C SW SE Sec. 20-27-5w	Location.
Baucher et al's No. 1 Deadman, SW SE Sec. 12-28-4w	Drlg. 450 ft.
Cowden and others' No. 2 Vollmer, CEL NE SW Sec. 22-25-4w	Shut down 5,640 ft.

GARVIN COUNTY

Gardner Pet. Co.'s No. 1 Halverson, SW cor. NE Sec. 8-4-2	Drlg. 3,090 ft.

GREER COUNTY

Helmerick & Payne's No. 1 Henck, NW cor. Sec. 23-6-24w	Shut down 485 ft.
I. T. I. O. and others' No. 1 fee, C SW NE Sec. 17-6-24w	Drlg. 1,895 ft.
S. M. Stauffer's No. 1 Castleman, SW NE Sec. 8-4-26w	Shut down 625 ft.

HARMON COUNTY

I. T. I. O. Co.'s No. 1 fee, C SW SE Sec. 17-5-24w	Rig.

HARPER COUNTY

Sinclair Oil & Gas' No. 1 Howell, C SW SW Sec. 14-26-24w	Rig.

(Continued on Page 86)

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Kansas Production Mounting Steadily

New Wells in Sedgwick County Increase State's Total. Greenwich Townsite Active. New Locations in McPherson County

By W. A. Spinney
Staff Correspondent, Kansas Fields

The production of the Valley Center Pool in Sedgwick County, Kansas, is up, along with the rest of the State. The State's production increased 3,360 bbls. daily compared with the previous week's figures and averaged 124,575 bbls. a day for the week ending July 20. Most of the increase is due to the Greenwich Townsite, where several large wells have been completed. The fifth producer drilled the pay horizon the first part of the week, and is estimated to be good for 2,000 bbls. a day. It is the largest well completed in that area to date. It is owned by the Derby Oil Co. and is No. 1 Keadek, SW cor. SE SW Section 15-26-2. The well is producing from chat at 2,918-20 feet, where the hole filled up at once.

The townsite of Greenwich in Sedgwick County, is the center of interest in development work in Kansas this week. Drilling operations were stimulated the past week in that pool by the addition of two new locations. When work is begun on these locations the area will have a total of 15 operations. The new tests will be the Shell Petroleum Corp.'s No. 1 Williams, Block 11, Lot 1. The other location is the same company's No. 1-B Lygrisse, SE cor. NW SW, Section 15-26-2, a mile southwest of the discovery well.

Skelly Oil Co. and others' No. 1 Birket, NE cor. SW Section 30-24-7w, Reno County, a community wildcat test, encountered from 3,000,000 to 5,000,000 feet of gas in a stray sand at 2,075-85 feet. The owners plan to drill to deeper horizons before completing the test.

T. M. Deal Oil & Gas Co. is completing a new well in Section 15-26-2, early in the week. It is the fourth test to find production in chat. It swabbed and flowed 400 bbls. the first 24 hours at 2,923-27 feet. The test is located in Block 6 on the townsite. The same company is moving in a rig for its second well in Block 5, Lot 16. W. F. Kenny and others' new well in the townsite made as high as 1,400 bbls. of oil and 150 bbls. of water in 24 hours. Although the appearance of water in the chat wells in the townsite has somewhat dimmed the prospects of the operators, all the wells are yielding large oil production and to date not a failure has been completed within the limits of the townsite. The four completed wells in Greenwich had production of 2,700 bbls. of oil the middle of last week. Of this amount the Shell Petroleum Corp.'s No. 1 Community, the discovery well, made 1,210 bbls.

North of the Greenwich Pool the Mars Oil Co.'s No. 1 Miller, in the SE cor. SW Section 2-26-2, Sedgwick County, is averaging 375 bbls. a day from chat at 2,893-94 feet. The well is 1½ miles north of production. The area is expected to witness a revival of development surrounding the test. It is in the extreme northeastern part of the county and will probably result in a new pool. The Prairie Oil & Gas Co. has announced a new location offsetting the well to the east. It is located in the SW cor. SE Section 2-26-2, Sedgwick County.

In the Lygrisse Pool the Shell Petroleum Corp.'s No. 1 Hamant, in Section 22-26-2, Sedgwick County, which was drilled through chat with rotary tools to a total depth of 3,085 feet, and was later plugged back to 2,980 feet. On production test only about 30 bbls. of oil could be swabbed from it and considerable water was produced along with the oil. The owners decided to drill it to the deeper horizons and it is now drilling with standard tools at 3,000 feet.

Skelly Oil Co. has announced a new location in the NE cor. NW Section 11-26-2, Sedgwick County, and is moving in a rig. The location is just north of the Lygrisse Pool. The majority of the acreage in this area is held by the Shell Petroleum Corp. which also has a monopoly on the production. This fact is due to the company having the adjoining acreage under lease at the time the area was core drilled.

The Barnsdall Oil Co.'s No. 1 in the NE cor. NE SE Section 24-25-1, Sedgwick County, had dolomite at 3,475-3,500 feet, with a hole full of water. Five-inch casing is to be landed and the test drilled deeper. In the same section the Producers & Refiners Corp. is moving in a rig for No. 2 in the NE cor. NW NE Section 24-25-1, Sedgwick County.

High water is still bothering the operators in the Valley Center Pool and several wells are shut down and on others the production has been curtailed. The water is not as high as last week and if no more bad weather comes, the operations will be normal by the first part of next week.

Canary and others' No. 1 in the NE cor NW NE of Section 22-26-1, Sedgwick County, found a hole full of water in chat at 3,041-50 feet. The test is a semi-wildcat and the owners expect to drill it to the deep formation. It was drilling ahead at 3,060 feet.

Sullivan and others' No. 1 Shelly, NW cor. NE SW Section 32-29-2, Sedgwick County, in the southeastern part of the county, had water in the Wilcox sand at 3,560-63 feet and the test is shut down at a total depth of 3,605 feet. It is a wildcat and in view of its location many were of the opinion that it might find production in the deep horizon.

Miller and Wentz' No. 1 Shaffer, NE cor. NW Section 9-27-2w, Sedgwick County, a wildcat test several miles from production appears to be running low on the lime. It encountered a hole full of water at 3,525-55 feet and was drilling to the Wilcox sand.

Important Test in Harvey

An important wildcat test that is drilling ahead with no showing is Rosenthal and others' No. 1 Ingalls, C NW SW Section 24-23-3w, Harvey County. The test found chat at 3,207-24 feet. The owners expected to find production in this formation and will drill to the deeper horizons before abandoning.

Slick and others' No. 1, SW cor. SE Section 33-27-4, Butler County, found a hole full of water in the Simpson lime at 4,164-86 feet, and expect to test the Wilcox sand horizon.

Barnsdall Oil Co.'s No. 1 in the NE cor. NW Section 21-26-3, Butler County, is drilling deeper after finding a hole full of water in chat at 2,784-2,855.

Sedgwick County Production

The production by companies and leases in the Sedgwick County area for July 20, is shown by the following:

Company, lease—	S.T.R.	Wells	Bbls.
Aladdin:			
Bennington	6-26-1	2	61
Barnsdall:			
Samuel	24-25-1	1	Oil
Bu-Vi-Bar et al:			
Branch	6-26-1	2	68
Bright "A"	6-26-1	2	25
Bright "B"	6-26-1	5	1,78
Byers	7-26-1	1	14
Emrich	6-26-1	2	65
T. Goodrich	6-26-1	5	64
Lants	12-26-1w	2	34
Corr	1-26-1w	6	4,64
Lyons	7-26-1e	3	2,30
Miles	7-26-1		9
Reed	1-26-1w	3	87
Roll	7-26-1e	1	47
Rothfuss	6-26-1e	1	6
Shawver	7-26-1e	7	5,05
Wright	12-26-1w	4	3,88
Woodward	7-26-1e	1	34
Connell:			
Cross	27-25-1w	1	1
Davis-Skelly:			
Wilson	1-26-1w	8	2,00
T. M. Deal:			
No. 1 Townsite	15-26-2	1	40
Derby:			
Bowling	6-26-1e	1	9
Gorman	6-26-1e	4	1,42
Dickey et al:			
Robbins	21-28-1e	1	23
Dickey:			
Nolan	21-28-1	1	19
Gypsy:			
Hammant	14-26-2e	3	54
Mars Oil Co.:			
Fitch	2-26-2	1	37
Marland:			
Goodrich	16-25-1e	2	72
No. 1 Black	16-25-1	1	19
Mary Jane:			
W. F. Kinney	15-26-2	1	1,25
Fitch	6-26-1e	2	72
Montour:			
Lavender	6-26-1e	2	1,11
Patton & Wentz:			
Swenson	6-26-1	1	10
Difford	1-26-1w	3	16
Piefer	6-26-1e	1	11
Plains Oil:			
No. 1 Plains	15-26-2	1	34
Prairie:			
Cross	27-25-1w	1	1
Swyser	36-25-1w	3	35
Producers & Refiners:			
Kuske	24-25-1	1	45
Pyle & Suiter:			
Caldwell	6-26-1e	2	33
Reynolds & Hays:			
Roll	7-26-1	1	35
Robertson et al:			
Creson	6-26-1	1	51
Shell:			
Fisher	15-26-2	1	10
Lygrisse	15-26-1	1	30
No. 1 Community	15-26-2	1	91
Nolan	21-28-1e	1	14
Stearns & Streeter:			
Roll	7-26-1	1	56
Tidal:			
Scherger	6-26-1	3	20
Vickers:			
Nessen	6-26-1	3	33
White Eagle:			
Baylor	6-26-1	1	1
Robbins	20-28-1	1	11
Total		106	37,78

New Locations in McPherson

Another outstanding feature is the interest in McPherson County, three new locations were made in the county last week, one by the Derby Oil Co., its No. 1 Stucky, C NE SE, Section 9-21-3, a half mile south of Ted Washabaugh's discovery well. Another location is the Prairie Oil & Gas Co.'s No. 1 Krehbiel, C SE

(Continued on Page 236)

WILDCAT OPERATIONS IN KANSAS

(Descriptions are East unless otherwise marked)

Company, farm and location—	Remarks:
BARBER COUNTY	
Skelly Oil Co.'s No. 1 Temple Ranch, Sec. 13-34-15w	Drlg. 370 ft.
Barbara Oil Co.'s No. 1 Angel, NW cor. NE Sec. 14-33-13w	Cemented 8-in. csg. 4,486 ft.
Robertson et al's No. 1 Powell, SE cor. SE Sec. 11-32-10w	Rig on ground.
Allison & Fitzwilliams' No. 1 Morrisse, C NW SE SE Sec. 9-30-12w	Drlg. 3,510 ft.
BARTON COUNTY	
Everett & Wiley's No. 1 Ward, NW cor. SW Sec. 13-20-13w	Shut down 3,948 ft.
BUTLER COUNTY	
Lario Oil & Gas' No. 1 Gordon, NW cor. Sec. 15-26-3	Rig.
Sinclair Oil & Gas' No. 1 Johnson, NE cor. Sec. 16-26-3	Spudding.
Empire O. & R. Co.'s No. 1 Parks, NE NW Sec. 36-29-4	Spudding.
Arkansas Natural Gas' No. 1 Campbell, SE cor. Sec. 9-26-3	Rig.
White Eagle's No. 1 Bachelder, SW cor. Sec. 17-25-3e	Drlg. 2,650 ft.
Crawford et al's No. 1 Thompson, NW cor. SW Sec. 2-24-3e	Drlg. 1,895 ft.
Aladdin Petroleum Co.'s No. 1 Bronsenger, NE cor. NE SW Sec. 24-27-3	Setting 8-in. csg. 2,430 ft.
CHASE COUNTY	
Marland Prod. Co.'s No. 1 Hiatt, SW NE Sec. 8-31-8e	Hole full water 3,171-78 ft.; shut down.
COWLEY COUNTY	
Landon & Slick's No. 1 Daniels, NE SE Sec. 6-30-5e	Drlg. 750 ft.
J. B. Markley's No. 1 Tatum, SE cor. SW Sec. 11-31-6	Shut down 520 ft.
DICKINSON COUNTY	
Cress & Hawky's No. 1 Menll, NE cor. Sec. 12-15-2	Rig.
Johnson's No. 1 Doetwiler, SW NE NW Sec. 32-16-4e	Shut down 3,020 ft.
Prairie Oil & Gas Co.'s No. 1 Morgan, NW cor. Sec. 26-16-3e	Drlg. 2,070 ft.
Milmac's No. 1 Buhler, SW NE Sec. 28-16-4e	Drlg. 2,470 ft.
ELLIS COUNTY	
T. C. Johnson's No. 1 Robbins, SW NW Sec. 15-14-16w	Hole full water 3,468-78 ft.; shut down.
John Brown's No. 1 Gestner, SE cor. SW NE Sec. 13-13-18w	Shut down 3,964 ft.
Rush Oil Co.'s No. 1 Gatewood, NW cor. NW Sec. 4-15-20w	Fishing 2,555 ft.
Finney & Weiner's No. 1 Freeman, SE cor. SW Sec. 24-15-20w	Spudded and shut down.
Phillips Pet. Co.'s No. 1 Johnson, SW cor. NE Sec. 9-13-19w	Drlg. 3,593-95 ft.; swabbed 624 bbls. in 33 hrs.; 1,100 bbls. in stock tanks.
Phillips Pet. Co.'s No. 1 Schneider, NW cor. Sec. 20-12-17w	Drlg. 3,429-39 ft.; 108 bbls. in 8 hrs.; shut down.
Burger et al's No. 1 Hadley, SW cor. SW NW Sec. 20-11-17w	Drlg. 2,910 ft.
John Brown No. 1 Company's No. 1 Gestner, SE cor. SW NE Sec. 13-13-18w	Shut down 3,964 ft.
ELLSWORTH COUNTY	
The Texas Company's No. 1 Sherman, NE SW Sec. 16-17-6w	Drlg. 400 ft.
GRAHAM COUNTY	
Gulf Coast Oil Co.'s No. 1 Johnson, C S half Sec. 27-8-25w	Shut down 3,925 ft.
GREENWOOD COUNTY	
F. Konkay et al's No. 1 Rock, NW NE NE Sec. 7-27-12	Spudding.
Ward & McGinnis' No. 1 Anderson, NE NW SW Sec. 13-25-10	Rig.
HARPER COUNTY	
Tom Slick Oil Co.'s No. 1 Unknown, SE cor. Sec. 13-34-8w	Drlg. 1,500 ft.
Tom Slick Oil Co.'s No. 1 Thompson, NW cor. Sec. 10-32-6w	Drlg. 1,700 ft.
Independent & Reserve Oil Co.'s No. 1 Moulds, C NE Sec. 7-24-1w	Drlg. 2,206 ft.
HARVEY COUNTY	
Payne and others' No. 1 Ady, NE NW SE Sec. 16-24-1	Rig.
Deering-Marshall's No. 1 Dick, Sec. 4-25-2w	Fishing 2,345 ft.
McCulloch et al's No. 1 Prouty, NW cor. SW Sec. 3-23-1w	Fishing 2,020 ft.
Roth & Parrent's No. 1 Brombrowsky, NW cor. Sec. 26-22-1e	Fishing 2,415 ft.
Mrs. Gay et al's No. 1 Grove, C NW NE NW Sec. 29-23-1w	Shut down 3,012 ft.

(Continued on Page 86)

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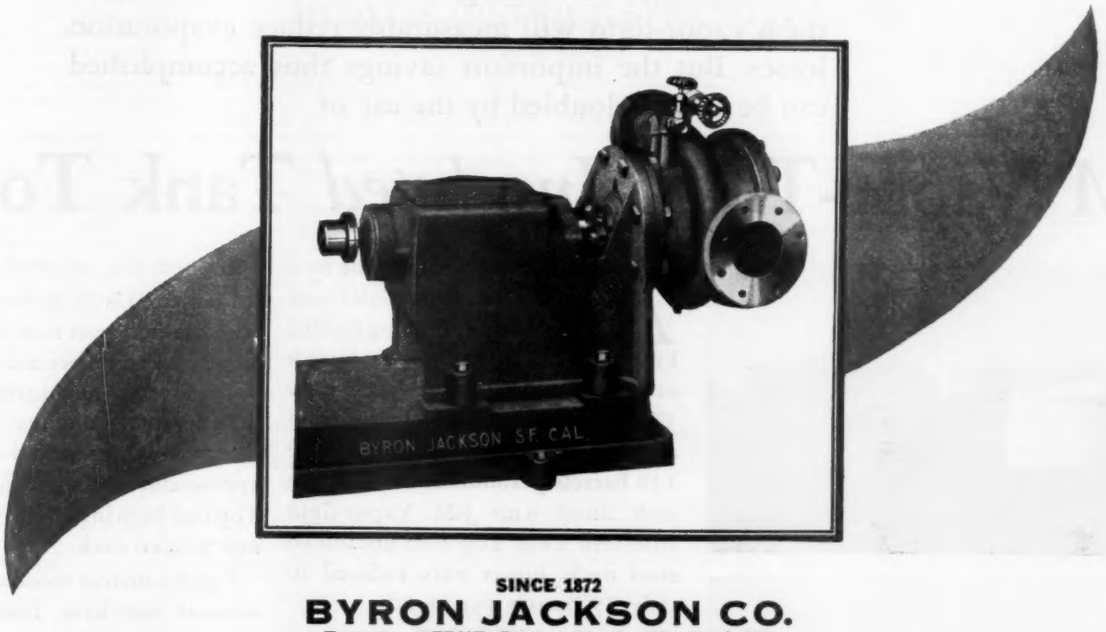

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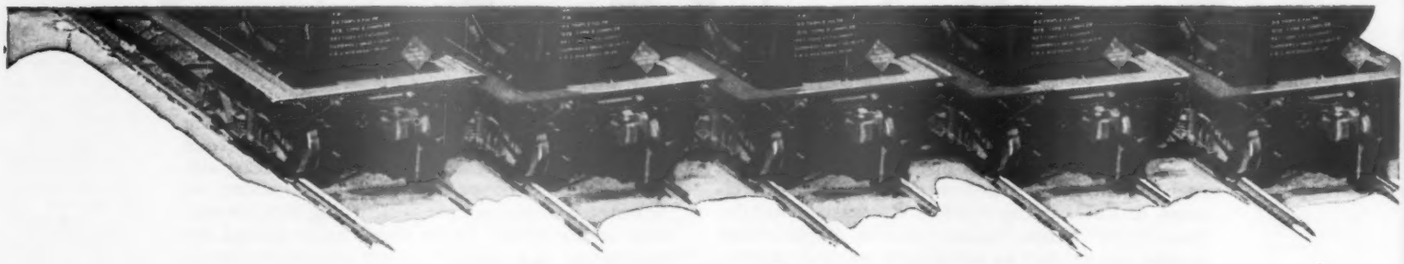

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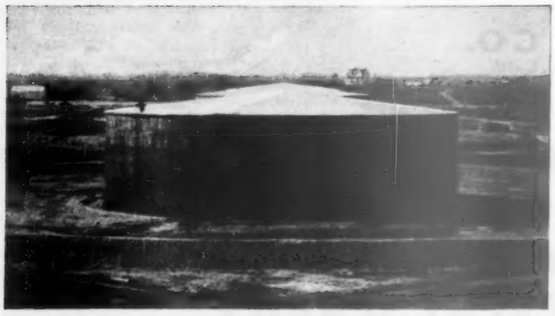

A NINE months' test made by a Refinery* near the Gulf Coast showed the following results: Evaporation losses from a tank with ordinary uncaulked steel deck were 170 barrels per month; losses from a tank with caulked steel deck were 118 barrels per month; while in the tank fitted with J-M Vapor-tight Insulated Tank Top over uncaulked steel deck, losses were reduced to only 79 barrels per month.

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Anomalies in Richland Parish Gas Field

Wells That Developed Shows and Finished at Widely Separated Levels Mixed With Dry Holes and Insignificant Showings

By D. H. Bancroft
Staff Correspondent, Louisiana-Arkansas

SHREVEPORT, La., July 22.—Development along and just beyond the northern fringe of production in the Richland gas field recently and in the early days of exploration before the main body of the field was definitely located, has disclosed some anomalies the talent does not quite understand. Neither does anybody else. Consequently they are using extreme care in landing and cementing second and third strings, particularly since while drilling well above where there was any reason to expect gas, a well estimated at 65,000,000 feet blew in and cratered. While they are not so close together as in Champagnolle, gas wells in this part of the field have developed shows and been finished at widely separated levels and are mixed in with dry holes and others that made only insignificant showings where others were completed as producers.

Nine wells in this area will illustrate the point. Early in the field's career Gulf Refining Co. drilled No. 1 Millsaps in the NW cor. NE Section 8-17-6, which blew in at 2,428 feet, making 10,000,000 feet through drill stem and caught fire; salvaged, it made an estimated 5,000,000 feet and then went to salt water immedintely after. Then it was made a deep test, but did not find any more gas sand down to 4,166 feet, where it was abandoned.

Palmer Corp. Completions

Last month Northern Louisiana Natural Gas Co. was drilling on No. 1 Boykin in Section 20-17-6 at 2,210 feet when it suddenly blew in with an estimated 65,000,000 feet and cratered. Within the past two or three weeks Palmer Corp. has completed this trio: No. 1 Hardwick, SW SW Section 16-17-6, with something more than 49,000,000 feet of gas at 2,449 feet; No. 1 Whitten in the NW NE Section 21-17-6, with 800,000 feet at 2,486 feet after it had tested 250,000 feet at 2,455 feet, and No. 1 Jones in the SW NW Section 22-17-6, making 15,000,000 feet, total depth 2,452 feet. These three, running close to normal depth of Richland wells, are all within one-half mile of each other, and Hope Producing Co.'s No. 1 Standard Oil making more than 51,000,000 feet initial from normal depth of 2,450 feet, is a one-half mile south of the Palmer's No. 1 Junesmin, Section 28-17-6.

Northwest of the Palmer's three wells Austin & McDonald have one well palpably a failure, and another that looks very much like one. Both are in Section 17-17-6; No. 1 Millsaps, in the SE NW, tested 200,000 feet of gas at 2,437 feet and again at 2,510 feet, missing the 2,450-foot level entirely; No. 2 Millsaps in the SW NW of the section, got only a slight show at 2,440 feet and again at 2,490 feet and salt water at 2,522 feet and 2,697 feet where it is now shut down and probably will be abandoned. Farther away, and to the northeast of this group of wells Palmer Corp. also has what looks suspiciously like a dry hole. No. 1 Miles, in the NE NE Section 11-17-6, has made five tests, all dry, above, at and below the 2,450-foot normal. The first was at 2,428 feet, the others at 2,456 feet, 2,457 feet, 2,538 feet and the last at 2,613 feet. If they can get a fish out of the hole they may go on deeper. The Hope Producing Co.'s and the three Palmer gassers were among this week's completions.

Richland and Monroe Gas Areas

Both the Richland and Monroe gas districts are picking up in advance of increased requirements exacted by completion of three major pipelines scheduled for early October. One of the more pretentious drilling programs is reported planned by Imperial Oil & Gas Products Co. which is said to have a series of 18 wells in the three parishes of the Monroe Field in prospect, and another indication is increasing activity in leasing on and around the Spencer Dome n Ouachita Parish. As high as $100 an acre has been paid for some of this stuff and one operator is particularly busy buying whatever he can get here and around the Richland Field.

Southern Carbon Co.'s No. 53 fee in Section 23-19-4, Ouachita Parish, with production close around on all sides, did not show up well on test this week, doing only 800,000 feet at 2,225 feet, where it is waiting orders. LaDel Producing Co.'s No. 48 fee in Section 31-20-5 was in the same situation until it was deepened. It tested only 500,000 feet of gas at 2,186 feet, but when 10 feet more hole was made it was completed gauging 12,000,000 feet, so the Southern Carbon Co.'s well may be expected to do likewise. Mack & Pipe's No. 1 Burke, Section 7-18-5, gauged 1,500,000 feet at 570 pounds, total depth 2,236 feet, and Imperial Oil & Gas Products Co.'s No. 1-A fee, Section 30-20-4, Union Parish, made 8,000,000 feet at 920 pounds from 2,134 feet. Magnolia Petroleum Co. abandoned No. 1 Central Bank in Section 1-19-4, Ouachita Parish, at 185 feet on account of litigation.

In Richland Parish, Southern Carbon Co.'s No. 1-B Tegola, Section 5-15-6, on the southern edge of production, looks like a salt water well more than a gasser, though it is making some fuel. It tested 250,000 feet of gas at 2,461 feet last week, made 16 feet more hole and showed 200,000 feet of gas and 3,000 bbls. of salt water. Although the former depth was already 11 feet below normal, the operators felt perfectly safe in taking the 16 additional feet as their No. 1 Tegola in Section 4-15-6 had been completed a month before making 46,000,000 feet of gas at 2,476 feet.

Red River Parish Gas Show

Root Refineries, Inc.'s No. 1 Home Savings and State Bank, Section 8-13-10, on the edge of Bull Bayou production in Red River Parish, got a sizeable gas show in sand from 897-939 feet, but passed up the 1,000,000 feet of fuel and is coring at 980 feet. In DeSoto Parish, D. Thomason abandoned No. 1 Nabors, Section 6-12-11, as a salt water hole at 1,406 feet. The first completion on the Winn Parish side of the Urania Pool in a couple of years or so was Gardner, Harter & Brown's No. 12 Harper in Section 26-10-1e, making 200 bbls. from 1,497 feet. Location was made immediately for No. 14 in the same section. Two tests in Sabine Parish at this writing had not developed anything. R. L. Gay's No. 2 Sabine Lumber Co., Section 23-7-14, Zwolle district, was bailing, total depth 2,234 feet, and A. H. Tarver's No. 1 Long-Bell, Section 29-8-13, had had a small show of gas and mud on drill stem test at 3,535 feet.

Sarepta District

Pat Case's No. 1 Slack, Section 1-22-11, Sarepta district of Webster Parish, shut down for the past three or four weeks, made a drill stem test at 2,702 feet which was dry and is waiting orders. Magnolia Petroleum Co. was coring red shale at 6,466 feet on No. 1 McCook & Hibbler in Section 22-21-10, Cotton Valley district, having had that formation from 6,091 feet with streaks of it at intervals back to 5,693 feet. It is reported that the Magnolia is figuring on making an 8,000-foot test. At that depth it will be the deepest hole in the entire state.

Rushing and others abandoned No. 1 Lynn in Section 7-17-13, Champagnolle eastern extension, as a salt water hole at 3,312 feet. This was the second hole, the first having been junked, and made a similar test at 3,216-22 feet. J. P. Hawkins and others' No. 1 Goodwin in Section 8-17-15, El Dorado district of Union County, showed for 4,000,000 feet of gas in 8 feet of sand, total depth 2,193 feet, and cemented 6⅝-inch for standard test. Sundby and others have what looks like a 50 to 100-bbl. producer a quarter of a mile northeast of production in the Ouachita County end of Smackover in No. 1 Faris, Section 27-15-15. Total depth is 2,060 feet.

Daily Average Runs

Daily average runs from this division totaling 104,790 bbls. were practically stationary with last week's, that figure being 50 bbls. less than was run during the week ending July 13. Louisiana districts shipped 470 bbls. a day more than did last week, averaging 36,140 bbls. but a decline of 640 bbls. in Smackover heavy left Arkansas with a deficit of 520 bbls., the total for those districts being 68,650 bbls. compared to 69,170 bbls. the week before. Daily average runs from the several districts were:

Louisiana	
Caddo, light	9,445
Caddo, heavy	3,390
Homer	3,890
Hayneaville	4,965
DeSoto-Red River	3,680
Elm Grove	545
Bellevue	660
Co.ton Valley	2,540
Urania	6,310
Pleasant Hill	525
Sarepta-Cartersville	250
Total	36,140
Arkansas	
El Dorado	4,440
Smackover, light	6,180
Smackover, heavy	46,970
Stephens	1,010
Nevada County	1,010
Lisbon	1,235
Champagnolle	7,515
Bradley	90
Total	68,650
Both states	104,790
Last week	104,840
Decrease	50

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CHANCE TO EXTEND PRODUCTION IN DIXIE DISTRICT STRENGTHENED

By D. H. Bancroft

SHREVEPORT, La., July 22.—Chances of D. C. R. Oil Co.'s No. 1 Oden in the NE cor. NW, Section 20-19-14, extending production in the Dixie district of Caddo Parish south and southwest of production were strengthened this week when, after a drill stem test of 21 feet of sand and shale and cementing the pay string, the hole filled up 700 feet in oil from a total depth of 2,423 feet. To the southeast of production, Lide and others' No. 1 Oden, in the SE cor., Section 21-19-14, does not appear to be showing up so well. It cored shale from 2,400-10 feet and was coring again at 2,415 feet. The best showing it has had so far was sand at the bottom of the first core that showed traces of oil, but the absence of anything better did not keep Louisiana Oil Refining Corp. from taking a half interest in Lide's half interest in the well and the 720 acres surrounding. Cranfill & Reynolds owned the other half interest in the project.

Two of the week's completions were in the district. Standard Oil Co.'s No. 2 Henderson, in the SE SE, Section 8-19-14, one or two locations north of the discovery well, went on the beam for 25 bbls. initial, total depth 2,407 feet, while Ray-Daws Drilling Co.'s No. 1 Hunter, in the NW NE of the same section was a dry hole at 2,502 feet, drill stem test at 2,393-2,436 feet furnishing nothing better than two joints of mud. The pool now has nine wells producing, its last 24 hours' production totaling 1,406 bbls.

W. G. Gray made a drill stem test on No. 1 Snyder, Section 15-16-6, Bienville Parish, that got salt water at 2,842 feet and 2,888 feet and is shut down at 2,924 feet.

C. L. West has assumed the drilling obligations on a block of 4,000 acres centering on Section 3-20-13, 5 miles northeast of Benton, county seat of Bossier Parish, and plans a 2,200-foot well to be drilled in the NE cor. SE SW of that section. It will offset an old well drilled by Triangle Drilling Co. that cored oil sand from 2,201-5 feet but failed to produce and was abandoned at 2,687 feet. Several other wells drilled in this vicinity also had sand making small shows of oil.

Claiborne Parish Test

Southern Crude Oil Purchasing Co.'s No. 1 Christian in Section 22-23-6, Claiborne Parish, is running normal on the Nacatoch which it topped at 2,050 feet, and is drilling sandy shale at 2,169 feet. El Dorado Chief Oil Co. which has had derrick up for No. 1 Dance in Section 27-20-7, 7 miles southeast of Homer production, for the past month, started drilling this week and is down around 300 feet. In Section 29-20-5, O. G. Collins made location for No. 1 Mosley, 2 or 3 miles north of the series of wells drilled in the Sugar Creek district where Triangle Drilling Co. got enough encouragement to drill the series but not enough pay to make a well. The present test will be a deep one if it checks high on the Nacatoch, otherwise it will stop there.

O. W. Clark completed No. 7 Tullos, Section 23-10-1e, Urania district of La Salle Parish, pumping 50 bbls., total depth 1,505 feet, and while waiting on standard rig to pump No. 47 L. & A., in Section 17-7-2e, White Sulphur district of LaSalle, Tunica Petroleum Corp. started No. 48 L. & A., in Section 16-7-2e, and is down 700 feet. There is 7 feet of sand in No. 47, total depth 818 feet, and is probably will be another of the small pumpers Tunica completed in this area two years ago. These wells probably influenced Palmer Corp. to send a magnetometer crew into that district, which is being surveyed from White Sulphur east and south to Catahoula Lake. Palmer Corp. has a large block bordering the north end of the lake.

Shaw and others claimed a gas show at 2,765 feet in No. 1 Voss, Section 1-20-3, Lincoln Parish. It cored brown shale at 2,759-62 feet and went into some soft sand on which it will run testing tool. One completion in DeSoto Parish this week was dry, D. Thomason's No. 1 Nabors, in Section 6-12-11. George O. Baird's No. 1 Tremont, Section 24-16-1w, Jackson Parish, ran testing tool the second time to test 8 feet of sand, 3,037-45 feet and got a little gas with salt water and is drilling at 3,095 feet.

Transcontinental Oil Co., which recently completed a 2,000-acre block in the SE cor., Township 21-7, Morehouse Parish, is adding to it, crossing the line into Township 20-7, and leasing down the

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High Island Well Is Best of the Week

Gulf Production Co.'s No. 9 Smith Flowing 1,800 Bbls. of Pipe Line Oil Daily. Another Louisiana Dome Proved Up

By Neil Williams
Staff Correspondent, Gulf Coast Fields

HOUSTON, Tex., July 22.—Completion of one of the best wells yet brought in at High Island, the proving up of another one of southern Louisiana's new geophysical domes for production, further extension of DeWalt, a wild gas well at Refugio and several scattered lease plays were among the chief developments on the Gulf Coast the past week. Several additional small producers were brought in at Refugio and at the close of the week interesting operations were preparing to test oil sands, several of which, if successful, will open new fields.

The best well of the week and one of the best ever completed at High Island, Galveston County, was Gulf Production Co.'s No. 9 Smith, M. Dunman Survey, which came in Thursday afternoon flowing between 1,800 and 2,000 bbls. of pipe line oil daily from sand at a total depth of 3,089 feet. This well is on the southeast side of the dome and is an offset to the League tract, on which production has been developed. Unlike most other High Island wells, it is holding up its production and Saturday was flowing at the rate of 2,000 bbls. Previous wells in this field, although a few have had as large initial flows, seldom have flowed longer than a day or have dropped to almost nothing and have had to be put on the pump.

The Texas Company's No. 1-B Lake Pelto on the Lake Pelto Dome in southern Terrebonne Parish, Section 8-23s-18e, Saturday was spraying 2½ bbls. of pipe line oil hourly.

First Production on Dome

This well, which was bailed in early in the week, marks the finding of first production on that dome. It is one of the seven in Terrebonne Parish discovered the latter part of 1928 by the Louisiana Land & Exploration Co. and which are being developed by The Texas Company. The oil is coming through 2½-inch tubing from a total depth of 1,388 feet. Two joints of screen take in two different sands, in the shallower of which the well was completed two weeks ago as a 3,000,000-foot gasser.

This is the second of the seven domes, on which oil production has been found in the first tests. A third has a completed gas well and two others have been proved as domes by the finding of salt of cap rock.

Production at DeWalt was extended 500 feet north by Humble Oil & Refining Co.'s No. 8 Sugarland, which was completed late Friday flowing initially 377 bbls. of pipe line oil from sand shale at 3,708 feet. A total of 158 feet of screen was set in the hole. DeWalt also added another producer, No. 3 Nelson, a 700-bbl. well at 3,573 feet.

All operations of the Mission Drilling Co. at Refugio were suspended Saturday with all crews working on the company's No. 1 J. F. B. Heard, which on Wednesday cut out the master gate on the 8¼-inch casing set at 3,653 feet and started running wild. No gauge on the pressure or volume is available and it is not determined from what sand the gas is coming although presumably from the sand at 3,657 feet. The bottom of the hole is about 4,438 feet.

Refugio Has Good Week

Refugio, however, had a good week in number of oil producers, three being completed. Mission Drilling Co.'s No. 1 Shelly was bailed in from sand at 3,647 feet and is estimated to be flowing 300 to 500 bbls. of pipe line oil daily. Houston Oil Co.'s No. 12 Fannie Heard is flowing 200 bbls. daily from sand at 3-656-62 feet. Houston Oil Co.'s No. 6 Pratt-Hewitt-Rooke also was worked over and flowed initially 100 bbls. daily at 3,689-3,708 feet. Saxet Gas Co.'s No. 5 Clint Heard was completed as a 1,250-pound gasser at 3,659-66 feet but the gas is being killed to deepen. Other completions of the week were routine including Humble Oil & Refining Co.'s No. 1-B Mitchell, Raccoon Bend, flowing 228 bbls., 3,514 feet; the same operators' No. 1 Mahnke, Raccoon Bend, 2,500,000 feet of gas, 1,021 feet; Gulf Production Co.'s No. 29 Taylor, Pierce Junction, spraying 10 bbls. daily, 4,486 fet; this company's No. 15 Luscher, Blue Ridge, flowing 1,000 bbls. daily, 4,003 feet; Rex Petroleum Co.'s No. 2-B Carbello, Orange Petroleum Co.'s No. 3 Berwick and Supreme Oil Co.'s No. 3 Jackson, all workover pumpers at Orange; Gulf Production Co.'s No. 93 Phoenix, Hull, flowing 600 bbls. daily, 2,958 feet; Humble Oil & Refining Co.'s No. 2-C Jackson, Sour Lake, pumping 150 bbls. of fluid, 50 bbls. of oil, 2,117 feet; Weldon Oil Co.'s No. 19 Hooks, Saratoga, pumping 90 bbls. of fluid, 40 per cent water, 1,586 feet; W. C. Turnbow's No. 6 Scorrega, Goose Creek, pumping 75 bbls. of oil, 2,249 feet, and Russell Farrell's No. 5 Gillette, pumping 75 bbls. net oil, 2,565 feet.

Two Tests Abandoned

Two more attempts to extend production on the east side of Boling met with failure when Sun Oil Co. abandoned two tests, Nos. 6 and 7 E. C. Farmer, the former in heaving shale at 4,072 feet and the latter in salt at 1,664 feet.

Gulf Refining Co.'s No. 1 Gaudet, Point Barre, St. Landry Parish, was abandoned at 4,229 feet after going into salt. This is the second of three tests drilled at this dome to find the salt and proves the existence of the dome as far as a mile and a half across, it being approximately that distance west of The Texas Company's No. 2 Botney Bay, which also drilled into salt.

Five other abandonments of the week were Saxet Gas Co.'s No. 2 Herman estate, southwest flank of Pierce Junction, temporarily quit at 5,000 feet in heaving shale; The Texas Company's No. 21 Wheeler & Pickens, south side of Humble, temporarily quit at 4,298 feet after testing a little gas at 4,239-42 feet; Gulf Production Co.'s No. 37 Davis, tested salt water 3,779 feet; Harvey Smith and associates' No. 1 Bailey, Humble, dry at 1,780 feet, and Gulf Production Co.'s No. 18 Knight fee, Batson, tested salt water at total depth of 1,127 feet.

Of particular interest at the close of the week was Pure Oil Co.'s No. 3 Mayes on the Lost Lake Dome, Chambers County, which was to have set screen to test a sand showing oil at 2,121-52 feet. This is 400 feet east of the No. 1 Mayes, which last March blew in gauging better than 40,000,000 feet of dry gas daily from sand at 2,071 feet, making the first and so far only successful completion. As the No. 1 Mayes, although completed as a dry gasser, showed heavily of oil before testing, the outcome of No. 3 Mayes is watched. No. 2 Mayes still is drilling.

New Deep Production Indicated

Possibilities of opening deep production at Anse La Butte, St. Martin Parish, also were indicated at the close of the week with Yount Lee Oil Co.'s No. 5 Louisiana Petroleum Co. preparing to test an oil showing sand at a total depth of 3,624 feet. Yount Lee Oil Co.'s operations at Anse La Butte have marked a return to that dome, one of the oldest on the Gulf Coast, at which some production, all shallow, has been developed.

The busiest persons on the Gulf Coast still continue to be the land men who are kept constantly on the go following almost continuous rumors of new domes being found. The active operations of geophysical crews, particularly the torsion balance men, have been among the features of Gulf Coast development, and although many of their reported findings are extremely vague, lease plays necessarily follow nearly every one of them.

The past week the seismograph is reported to have picked up indication of a dome in central Brazoria County in the vicinity of Danbury. Throughout the week there was some active bidding for acreage there with several of the larger companies and some independents getting in on the play.

Daily average production of coastal fields fell off 4,476 bbls. during the week ending July 20, losing nearly all the gain made during the previous seven-day period. Failure of the two leading coastal fields, Spindletop and Pierce Junction, to add any new important production resulting in substantial drops in these fields, was responsible for the general coastal slump. Figures for the week are:

Texas

Allen	1
Barbers Hill	8,119
Batson	1,240
Big Creek	4,401
Blue Ridge	3,286
Brenham	300
Boling	1,446
Clay Creek	2,585
Damon Mound	675
DeWalt	13,239
Goose Creek	5,521
High Island	1,749
Hull	7,844
Humble	7,340
Jasper County	49
Markham	350
Nash	475
North Dayton	375
Orange	2,469
Orchard	127
Pierce Junction	16,140
Port Neches	533
Refugio	3,900
Raccoon Bend	6,859
Saratoga	945
Sour Lake	2,697
So. Liberty-So. Dayton	6,126
Spindletop	28,415
West Columbia	6,287
Total Texas Coast	133,791
Week ending July 13	137,295
Decrease	3,424

South Louisiana

Anse La Butte	50
Bayou Bouillon	200
Black Bayou	97
Edgerly	715
Jennings	2,797
Hackberry	5,022
Lake Pelto	87
Lockport	3,022
Sorrento	70
Starks	452
Sulphur	1,650
Sweet Lake	45
Vinton	4,230
Welsh	35
Total Louisiana Coast	18,900
Week ending July 13	19,752
Decrease	852
Total Gulf Coast	152,691
Week ending July 13	156,957
Decrease	4,276

GULF COAST FIELDS AND WILDCATS

Week Ended July 20

BARBERS HILL—CHAMBERS COUNTY

Mills Bennett Production Co.'s No. 3 Smith, east flank	Drlg. shale 5,242 ft.
Mills Bennett Production Co.'s No. 2 Hamman	Set 8¼-in. casing 5,005 ft.; bottom in oil sand 5,045 ft.
Humphreys Corp.'s No. 8-A Kirby, east flank	Drlg. sand and lime 4,820 ft.
Humphreys Corp.'s No. 1-H Kirby, east flank	Fishing drill pipe 4,858 ft.
Humphreys Corp.'s No. 2-H Kirby, east side	Drlg. gumbo 3,883 ft.
Humphreys Corp.'s No. 3-H Kirby, east side	Drlg. gumbo 3,164 ft.
Humphreys Corp.'s No. 1 Tarbutton, east flank	Drlg. hard sand and lime 3,922 ft.
Humphreys Corp.'s No. 1 Illfrey, east flank	Drlg. sand and lime 4,358 ft.
Moody Corp.'s No. 1 Illfrey	Drlg. sandy shale and lime 4,021 ft.
Republic Production Co.'s No. 1 McKinney, south flank	Set casing 4,920 ft.
Rexal Oil Co.'s No. 2 McLean, east flank	Drlg. plug 5,137 ft.
Rexal Oil Co.'s No. 3 McLean, east flank	Set 10-in. surface pipe 1,535 ft.
Rexal Oil Co.'s No. 1 Smith, east flank	Set 6⅝-in. casing 5,047 ft.; oil sand.
Rexal Oil Co.'s No. 1 Cockburn, east flank	Drlg. shale and gumbo 3,884 ft.
Sun Oil Co.'s No. 3 Chambers, south flank	Drlg. rock 215 ft.
Yount Lee Oil Co.'s No. 4 Chambers, southwest	Drlg. hard sand and shale 7,212 ft.
Yount Lee Oil Co.'s No. 7 Chambers, south	Drlg. shale 3,802 ft.
Yount Lee Oil Co.'s No. 1 Kirby, south side	Fishing drill pipe 4,144 ft.

BOLING—FORT BEND AND WHARTON

Sun Oil Co.'s No. 6 E. C. Farmer, east	Abandoned in heaving shale 4,072 ft.
Sun Oil Co.'s No. 7 E. C. Farmer, east	Abandoned in salt 1,662-64 ft.
Sun Oil Co.'s No. 8 E. C. Farmer	Location.
The Texas Company's No. 1 Bushnell, northeast	Rigging up to pump 4,224 ft.
The Texas Company's No. 2 Pleasants, northwest	Drlg. gumbo 2,802 ft.
Vacuum Oil Co.'s No. 3 Taylor, south side	Drlg. hard sand showing oil 3,880 ft.

RACCOON BEND—AUSTIN COUNTY

Humble & Valley's No. 5 Hardy	Waiting cement to set 148 ft.
Humble & Valley's No. 2 Buchanan	Drlg. hard sand 1,036 ft.
Humble & Valley's No. 1-B Mitchell	Comp. flowing 228 bbls. oil 3,514 ft.
Humble Oil & Refg. Co.'s No. 2-B Mitchell	Location.
Humble & Valley's No. 2 Stravoski	Drlg. shale 3,518 ft.
Humble & Valley's No. 3 Walton	Drlg. shale and lime 2,820 ft.
Humble & Valley's No. 1-B Walton	Waiting cement to set 178 ft.
Humble & Valley's No. 4 Walton	Derrick.
Humble & Valley's No. 4 Thompson	Waiting cement to set 3,288 ft.; to test oil sand.
Humble & Valley's No. 3 Dietrichs	Reaming to set casing 3,279 ft.
Humble & Valley's No. 4 Dietrichs	Rig.
Humble & Valley's No. 1 Jackson	Drlg. 3,235 ft.
Humble & Valley's No. 1 Mahnki	Comp. flowing 2,500,000 ft. dry gas 1,021 ft.
Humble & Valley's No. 4 Austin College	Drlg. shale and lime 2,398 ft.
Humble & Valley's No. 1 Graneau	Location.
Humble & Valley's No. 2 Bellville School	Drlg. shale 2,111 ft.
Humble & Valley's No. 2 Woodley	Waiting cement to set 1,249 ft.
Humble & Valley's No. 2 Mueller	Drlg. hard sand 2,881 ft.
Humble & Valley's No. 2-A Grawunder	Derrick.
Humble & Valley's No. 2-B Grawunder	Drlg. shale and lime 1,932 ft.
Humble & Valley's No. 3 Reese	Drlg. shale 2,343 ft.
Humble & Valley's No. 4 Gotosky	Drlg. 186 ft.
Humble and Valley's No. 1 Keacheker	Drlg. sand and boulders 160 ft.
Humble and Valley's No. 2 Sherrill	Derrick.
Humble and Valley's No. 1 Krauallski	Rig.

(Continued on Page 218)

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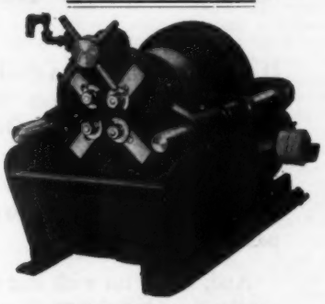

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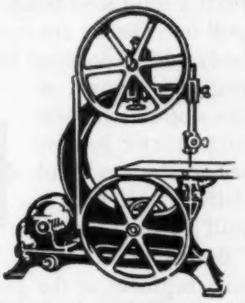

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BETTER BE SAFE THAN SORRY

Darst Survey Wildcat Opens New Pool

The Texas Company's No. 1 Dallas Wilson in Guadalupe County, 10 Miles From Production, Brought in Swabbing 52½ Bbls. an Hour

By B. D. Stevenson
Staff Correspondent, Southwest Texas Fields

SAN ANTONIO, Tex., July 22.—The Texas Company's No. 1 Dallas Wilson, in Guadalupe County, a wildcat 10 miles from nearest production in the Joe Bruner Field at Luling, was brought in last Thursday at noon, swabbing at the rate of 52½ bbls. an hour, and opening a new pool, the third important pool in the Edwards lime formation in the Luling area. Twenty-four hours later, after the storage was filled, the test was left with the bailer in the hole and was flowing a small stream and waiting for completion of more storage and laying of pipe line connections. The test is only a matter of 2 feet into the Edwards lime. After storage has been built and pipe line connection laid, it will be drilled deeper and the chances are strong that it will make much better than a 1,000-bbl. well.

Luling was the first field producing from the Edwards lime, and it is remembered that operators there at first drilled into the top of the Edwards only, because some edge wells were getting water. These wells completed in the top of the Edwards were pumpers. Later they were deepened and made gushers of around 2,000 and 3,000 bbls. initially. The same fear of water was present in the Joe Bruner Field. The showing that The Texas Company's No. 1 Dallas Wilson has made, barely touching the top of the Edwards, is evidence to many that when drilled several feet in it will make an unusually large well.

The first pool producing from the Edwards after the old Luling Field was brought in was the Roxana Larremore Pool west of Lockhart, in Caldwell County, which has never developed to more than a small spot of a few wells. Next came the Joe Bruner Field, and now the Darst Creek Field. The Darst Creek Field lies southwest of the Bruner Field and nearly in the same trend. Tthe oil, uncorrected as to temperature, is 36.4, and there is the usual Edwards lime sulphur odor though there is no water showing. Hydrostatic pressure will bring the oil out, however. Peak production in the Joe Bruner Field was around 60,000 bbls., reached lately.

Field Expected to Be Better

The Darst Creek Field is rather expected to be a better producing field since the fault displacement is greater. Depth to the top of the Edwards in the Bruner Field is around 2,688 feet to 2,700 feet. The new pool will probably extend southwest to the Guadalupe River and northeast from the well about the same distance. The lease on the Guadalupe River bed was sold before the well came in for a large sum, and the expectation is that it will afford several locations, though it runs across the axis of the field.

The field may extend for a short distance beyond the Guadalupe River. Acreage is practically all held by major companies, but there has been a most active play in royalties. Before the well came in some royalty was sold for as high as $650 on a one-eighth base per acre, which was considered rather high under the conditions. Now that the well is in, prices have soared.

The independent operator has been compelled to confine his attention in the field to royalty buying and selling, since acreage was closely held by The Texas Company, Magnolia Petroleum Co., Empire Gas & Fuel Co., Humble Oil & Refining Co., Gulf Production Co., and Sun Oil Co. The Shell Petroleum Corp. seems to have been about the only major company operating in Southwest Texas that was left out. Other than R. R. Penn, who has the riverbed lease, the new field is quite devoid of independent operators holding leases. As the defining of the limits of the field progresses, it may be that some acreage lying along the edges may come into the pay and be developed by independents.

Laredo District

Magnolia Petroleum Co., in territory north of the Cole Gas Field, Duval County, completed the No. 1 J. Lopez at 1,663 feet, flowing 18,000,000 feet of gas. The well is located 660 feet from the north and west lines of Survey 455 in Duval County. This test is nearly two miles due north of nearest gas production at that depth in the Cole Gas Field, and is two miles due south of nearest gas production at the same depth in the Simms Gas Field, and nothing has ever been drilled between them. Chances are the two fields will merge ultimately. Magnolia has a couple of sections or more of land lying in the open space between the two fields, and Vacuum, Associated, Sun Oil Co., and Simms Oil Co. have some acreage as well as some individuals owning acreage.

Development of the Magnolia's leases in that territory to supply its gas line to San Antonio may result in opening some oil producing spots. It is in the north end of the Cole Field that operators have had a lot of oil in some tests, and almost made wells on three or four occasions and are not convinced yet that there is not a pool of oil lying alongside the gas field.

New Serpentine Pool

Al Buchanan's No. 1 L. K. Brown, in Caldwell County, 150 feet from the southwest line of the C. M. Cannon Survey, and 1,500 feet from the southeast line of the L. K. Brown farm, (shown on some maps as the Mary L. Jeffery farm), probably will be an oil well this week, opening a new pool in the Serpentine formation. The location of the test is approximately 2½ miles southwest from the Dale Pool, which is producing from the Serpentine, and about 4½ miles south and a little east of the Lytton Springs Pool, also producing from the Serpentine.

Buchanan topped the Serpentine at 1,740 and drilled 22 feet in to 1,762 and stopped. He set casing at 1,730. The ditch and slushpit are covered with oil, and it looks certain to make a well. Opinions differ somewhat, some believing there is room for a Serpentine Pool that will be nearly as large as the Lytton Springs Pool, which covered 1,500 acres and has been a good paying pool. Others estimate the geology that there is room for not more than 250 to 300 acres of producing territory. Buchanan has about 250 acres of leases around his well, and will have the choicest of the acreage. The test was drilled in four days, including setting casing. Cost of drilling in such a field is slight, and fair production will therefore make it a profitable affair.

Schoolfield-O'Byrne

Two wells were completed in the Schoolfield-O'Byrne Pool in Duval County last week, one the S. & O. Oil Co. No. 5 Hahl, flowing 300 bbls. from sand at 2,336 feet, and the G. M. Partee No. 2 Moody, at 2,348 feet, pumping 55 bbls. The Partee test extended the pool one location to the east. Magnolia Petroleum Co. No. B-7 Hahl, at the north end of the field, which missed the regular pay and is drilling deeper, is down 3,760 feet and drilling.

Other Laredo Areas

In the Carolina-Texas Pool in Webb County, Trapshooter Reilly is down 1,600 feet in his No. 2 Benavides, on the south line of the pool where he recently completed an oil well at 3,000 feet. He expects to find the 2,100-foot gas sand in the No. 2, and should have it down to that by next week, since he made 550 feet the last week.

In that field Carolina-Texas Oil & Gas Trust, which last week completed a gas well offsetting a Texas Company gasser, has moved to the location for its No. 8 Benavides, in Survey No. 683, the location being 150 feet from the south line and 450 feet from the west line of Block 12 of Survey 683. It is understood that this is to be a deep test and will go deeper than anything yet drilled in that field unless it has some mishap.

In Zapata County, H. Muckelroy, Jr., No. 2 Trevino, southeast of the Jennings Gas Field, is down 1,286 feet and production in the No. 1, which opened a new shallow pool, was at 1,300 feet. Last week it was stated erroneously that the No. 1 came in at 1,408 feet. A few more feet of drilling in the No. 2 and it will be in the pay.

Magnolia has plugged and abandoned its No. 42 Merchant State Bank in Survey 235, located about half way between the Randado Pool on the north, and the Alworth Pool on the south. T. J. Conway has started his No. 3 Leyendecker a mile or so east of the No. 42 Merchant State Bank, and is down 1,200 feet already.

The Texas Company has spudded in a test on the Hyatt farm in Block 25 of the Sweeden Farm Lots subdivision, and has set the surface casing. This test is a few miles east and a little north of the Driscoll Pool and only a mile or so north of where the National Oil Co. started drilling its No. 2 Ball.

WILDCAT OPERATIONS IN SOUTHWEST TEXAS

ATASCOSA COUNTY

Tom Draper's No. 1 McCoy, Sur. 234 ..... Location.
Amphion Oil Co.'s No. 1 Sam Schlisser ..... Shut down 2,300 ft.; repairing rig.

BASTROP COUNTY

Gypsy Oil Producing Co.'s No. 1 Lottman estate ..... Drlg. 2,567 ft.
Gulf Production Co.'s No. 2 Bell, Riley Sur. ..... Location.
Jim Harper and others' No. 1 R. R. Mitchell ..... Location.
Howell Oil Corp.'s No. 1 F. Wichman ..... Drlg. 1,450 ft.
Humble Oil & Refining Co.'s No. 1 B. Haywood ..... Location.
Moore & Ortman's No. 1 Ortman, Andrew Graham Sur. .. Location.
E. W. Ogden's No. 2 M. M. McCall, Stephen F. Austin Sur. .. Stuck drill stem 2,912 ft.
Frank Rundus' No. 1 fee ..... Drlg. 700 ft.
Superior Oil Co.'s No. 1 R. J. Moore, J. Raines Sur. ..... Location.

BEXAR COUNTY

Balcones Oil Corp.'s No. 1 F. A. Jackle ..... Topped Anacacho 1,540 ft.
Guy S. Fisher's No. 1 S. L. Beck, P. W. Hays Sur. ..... Location.
Indian Creek Oil & Gas Co.'s No. 1 W. Wolfsohl ..... Running casing 1,597 ft.
Moore-Jauer's No. 1 Holly R. Ellison ..... Drlg. 1,495 ft. in Glenrose.
Mrs. A. R. Garrett's No. 1 Pônciano Pena ..... Drlg. 540 ft.
J. Morgan Russell's No. 1 G. A. C. Haiff ..... Setting casing 20 ft.
E. G. Potter's No. 1 Watson, B. Martinez Sur. ..... Drlg. 1,488 ft.

BLANCO COUNTY

J. E. Forbes and others' No. 1 E. Bruckner ..... Drlg. 450 ft.
Sam Hohenstein & P. H. Burtner's No. 1 T. Beauchamp .. Dropped from reports.
Albert Moursund's ..... Dropped from reports.
W. W. Rains and others' No. 1, Survey 310 ..... Dropped from reports.
Robt. A. Rodson's No. 1 Glasscock ..... Dropped from reports.

BROOKS COUNTY

Milam Drlg. Co.'s No. 4 Riley Allen ..... Formation test, spudded.
A. W. Dinn's No. 1 J. G. Ramas, Block 5 ..... Abandoned.
A. W. Dinn's No. 1-B Garcia ..... Waiting on fuel 450 ft.
A. W. Dinn's No. 1 Salado, Block 5 ..... Dropped from reports.
Houston Oil Co. of Texas' No. 1 Lassiter, Survey 69 ..... Drlg. 2,700 ft.

CALDWELL COUNTY

H. C. Ratcliff's No. 1 J. E. Cardwell, J. F. Bell Survey ... Location.
Cranfill & Reynolds' No. 1 Dauchy ..... Location.
John T. Callahan and others' No. 1 W. Ellison ..... S.D. 550 ft; repairing boiler.
er.
M. O. Rayor's No. 1 J. Keefer ..... Drlg. 2,200 ft.
J. S. Brutsche's No. 1, R. L. Quinn Sur. ..... Location.
Al Buchanan's No. 1 K. L. Brown, C. M. Cannon Sur. .... Set csg.
Russell's No. 1 Hill, McCullough Survey ..... Standing 547 ft.
Whittington and others' No. 1 J. G. Horner ..... Standing 1,320 ft.

DUVAL COUNTY

Magnolia Petroleum Co.'s No. 1 Corbett, Sur. 96 ..... Drlg. 1,400 ft.

EDWARDS COUNTY

A. M. Griffith's No. 1 Wardlaw ..... Set csg. 2,407 ft.

FAYETTE COUNTY

Magnolia Petroleum Co's No. 1 Henry Gully ..... Drlg. 159 ft.
National Oil Co.'s No. 1, A. Hanger Williams League .... Set 70 ft. surface csg. on rock.
W. J. Kelly's No. 1 Burke ..... Changing to heavier rig 280 ft.
Marshall & Moore's No. 1 John A. Kerr ..... Drlg. 2,485 ft.

GONZALES COUNTY

Alexander & Smith's No. 1 Billings ..... Shut down 600 ft.
Joe Bruner's No. 1 R. D. and J. C. Miller ..... Moving in boiler 2,712 ft.
Crown Petroleum Co.'s No. 1 Hattenback ..... Rebuilding derrick 2,257 ft.
Finnell & Elam's No. 1 Robinson, Liverpool Survey ..... Set additional string csg. 1,040 ft.
Hoffman and others' No. 1 Steubing, John Smith Survey .. Location.
Linderman Brothers' No. 1 F. H. Frampton ..... Drlg. 1,000 ft.
Fort Bend Oil Co.'s No. 1 C. E. Ham ..... Drlg. 2,400 ft.
Frank Sorrell's No. 2 Wilkenson ..... Standing 174 ft.

GUADALUPE COUNTY

W. E. Clark and others' No. 1, Survey M. Miller ..... Location.
L. W. Conner and others' No. 1 William Weinaug ..... Drlg. 2,125 ft.
Grayburg Oil Co.'s No. 2 Sophie Haensel ..... Location.

(Continued on Page 220)

Southwest Texas

Field	Bbls.
Branyon	25
Bruner	48,968
Dale	444
Gonzales	49
Kingsville	255
Larremore	163
Luling	11,413
Ly ton Springs	987
McMullen County	67
Medina County	32
Mirando	11,101
Somerset	1,904
Yoast	1,066
Total	76,474
Week ending July 13	75,233
Increase	1,241

COMPLETIONS

Caldwell County

Humble Oil & Refining Co.'s No. 2 Trap Briscoe, completed 2,760 feet. Initial production pumping 800 bbls.

Humble Oil & Refining Co.'s No. B-3 B. M. Johnson, James Hinds Survey, located 206 feet south line, 150 feet north

(Continued on Page 211)

Jal District Well Averaging 1,500 Bbls.

Developments Lead Many Operators to Expect Big Wells Like Those in West Texas. Wellington Dome, Colorado, Extended

By Tolbert R. Ingram
Staff Correspondent, Rocky Mountain Area

DENVER, Colo., July 20.—The Rocky Mountain area had an eventful week compared with developments for the past few weeks. In Lea County, New Mexico, the Texas Production Co.'s No. 1 Shepherd, in the Jal district, is averaging 1,500 bbls. a day, being the best well so far completed in that area, and Cranfill & Reynolds' No. 1 Meyers, 9 miles north of the Shepherd well, has 2,000 feet of oil in the hole and is making 1,000,000 feet of gas. The Midwest Refining Co.'s No. 22 Gregory, in the Jal district, has increased its gas flow to 70,000,000 feet. Eddy County came to the front with what gives promise of being a good producer in the Pueblo Oil Co.'s No. 1 Lee midway between the Arestia and Maljamar Pools.

Colorado reported a well on the Wellington Dome in Larimer County in the Continental Oil Co.'s No. 1 Fleming, which will extend the field nearly half a mile to the west and which appears to be approximately on top of the structure. The Texas Production Co.'s No. 36 Lloyd on the Iles Dome in Moffat County made 108 bbls. initial from the Morrison sand, and two completions were reported in Fremont County, one for 100 bbls. and the other for 10 bbls.

Wyoming reported a gas discovery in the Mountain Fuel Supply Co.'s No. 1 Arnold, on the Middle Baxter Basin structure in Sweetwater County, but it is not yet known what it will make. A show for a producer on the Spring Valley Dome in Uinta County was found in the North American Oil Co.'s No. 2, the oil being high gravity. A 250-bbl. well was completed in the Osage Field in Weston County by the Osage Oil Trust Co., and a 90-bbl. well was completed on the Byron Dome in the Big Horn Basin. The Producers & Refiners Corp. is abandoning its South Frannie and Sherrard Dome tests and starting two others on different structures.

Idaho shows an increase in activity and a new structure on the Idaho-Montana line is to be given a test.

NEW MEXICO

Lea County, southeastern New Mexico, had its best completion this week in the Texas Production Co.'s No. 1 Shepherd, SE cor. NE Section 6-26-37, in the Jal district, which is averaging around 1,500 bbls. a day from a total depth of 3,285 feet. This well is in the area where some big gassers have been drilled in and 2¾ miles southeast of the Skelly Oil Co.'s No. 1 Joyner, the best oil well previously completed in the Jal district. It found the pay a little higher than the No. 1 Joyner, but missed the big gas flow. At 3,218 feet, No. 1 Shepherd began spraying oil last January, making an average of 120 bbls. a day with the gas, but completion was delayed several months by a tedious fishing job. The tools were sidetracked a few weeks ago and drilling was resumed. There was an increase in the oil at 3,220 feet and another at 3,250 feet. At a total depth of 3,285 feet it gauged 1,561 bbls. on July 8, and on July 11 it made 1,552 bbls. Its lowest point so far was 1,390 bbls. in one day. The Shepherd well is only three-fourths of a mile southeast of the Midwest Refining Co.'s No. 22 Gregory, NW SE SW Section 31-25-37, which came in last week for 70,000,000 feet of gas, and 1¾ miles south and a little west of the Pueblo Oil Co.'s No. 1 Crosby, recently completed as a 20,000,000-foot gasser. The Midwest's No. 22 Gregory, which last week was reported making 15,000,000 feet of gas at a total depth of 3,070 feet, was drilled 1 foot deeper and gauged 70,000,000 feet. It is probable that equipment will be changed over to rotary tools in an effort to get through the gas horizon. The developments in this immediate territory lead many of the operators to believe that big wells similar to those found in West Texas soon will become a reality.

Showing 9 Miles North

Ranking in importance with these developments is the show of oil and gas in Cranfill & Reynolds' No. 1 Meyers, NE cor. SE Section 22-24-36, 9 miles north of No. 1 Shepherd, and 5½ miles north of the same firm's No. 1 Wilson, the nearest producer. No. 1 Meyers is bottomed at 3,318 feet in hard lime and has 2,000 feet of oil in the hole and is making 1,000,000 feet of gas. The oil was found at 3,254-60 feet and the gas at 3,175 feet. Other operations in the Jal district include the following: The Marland Production Co.'s No. 1 Wells, SW SE NE, Section 11-25-36, is drilling at 2,425 feet, having topped the salt at 1,140 feet. The same company's No. 1 McCallister, SW cor. SE Section 24-26-36, a mile to the southwest of its No. 1 Eaves, a gasser, is drilling at 3,020 feet in lime. The top of the brown lime was at 2,965 feet. The Magnolia Petroleum Co.'s No. 1 Lindley, SE cor. NE Section 26-25-36, an offset on the north to No. 1 Joyner, is drilling at 345 feet in red rock and had a hole full of water at 295-305 feet. The Gypsy Oil Co.'s No. 1 Humphreys, NW cor. SW Section 25-25-36, an offset on the east to No. 1 Joyner, is fishing for a bit at 3,206 feet. The Amerada Petroleum Corp.'s No. 1 Glazier, SW cor. Section 19-24-37, is an abandoned location. In the San Simone district, C. E. Reynolds and others' No. 1 Merchant, SE cor. NE Section 15-22-34, is rigged and ready to spud, and Cranfill & Reynolds' No. 1-B State, NE cor. Section 2-21-33, is drilling at 1,740 feet in anhydrite, having topped the salt at 1,735 feet. Joe Cook and others' No. 1 State, NW NE Section 12-21-33, is bottomed at 1,190 feet and lowering the 12½-inch.

The Marland Production Co.'s No. 1 A. E. Meyers, SW SW Section 17-21-36, in the Eunice district, is drilling at 423 feet in the red beds, and the Empire Gas & Fuel Co.'s No. 1 Closson, NW SE Section 6-22-36, is drilling at 3,385 feet in lime. It had 200,000 feet of gas at 3,315-85 feet. The Midwest Refining Co.'s No. 31 Hughes, SW cor. NW, Section 19-23-37, a location, has been abandoned and will not be drilled at this time. The Texas Pacific Coal & Oil Co.'s No. 2 State, NW cor. SW Section 21-23-36, in the Ochoa district, is drilling at 1,142 feet in the red beds. The Barnsdall Oil Corp. is reported to have made a location in the SE Section 10-16-38, in the Lovington district, and the Humble Oil & Refining Co.'s No. 1 Bowers, C NE SE Section 30-15-38, is drilling at 1,560 feet in anhydrite. Holmes and others' No. 1 State, C SE Section 18-12-35, is reported abandoned at 1,872 feet. The Vacuum Oil Co.'s No. 1 State, center west line, Section 13-17-34, is bottomed at 4,744 feet in fine dark lime and is shut down to install steam. This well made around 125 bbls. a day at 4,710 feet. In the Hobbs area, the Midwest Refining Co.'s No. 31 Capps, SW cor. Section 3-19-38, is drilling at 4,000 feet in gray lime, and Henry Walker and others' No. 1 Terry, SW SE Section 10-19-38, is bottomed at 1,675 feet in anhydrite and shut down to rig up cable tools. The Shell Petroleum Corp.'s No. 1 Terry, SW NE Section 22-19-38, is bottomed at 1,200 feet and moving in rotary. The Rector Oil Co.'s No. 1 King, NE NE Section 26-25-32, is drilling at 2,750 feet in salt.

Eddy County

Eddy County came in for its share of interesting developments. The Pueblo Oil Co.'s No. 1 Lee, NE cor. Section 34-17-29, in the West Maljamar district, northeast of the Artesia Pool, liiks as if it will be a good producer. It is bottomed in lime at 2,542 feet and oil is rising in the hole. The pay had just been tapped and the oil rose 75 feet when operations were suspended to erect tankage. Since then the oil has continued to rise. The oil is of good grade, approximately 35 gravity. This well is 1½ miles southwest of the Grayburg Oil Co.'s No. 2 Burch, NW SW Section 19-17-30, recently completed as a 250-bbl. well, and which marked an extension of the West Maljamar Pool 5½ miles to the southwest of the discovery. This well makes the area between the Artesia and Maljamar Pools very attractive and it is now the scene of the principal activity in Eddy County. The Pueblo Oil Co.'s No. 4 Russell, NW cor. Section 18-17-31, farther to the east, also is showing up favorably. It is bottomed at 2,695 feet in anhydrite and lime shell and had gas shows at 1,980 feet and at 2,575-77 feet.

The Prairie Oil & Gas Co.'s No. 2 Keel, SW cor. Section 7-17-31, is drilling at 2,879 feet in lime after running the 8¼-inch. Leonard & Levers' No. 1 Haggerty, NE cor. NW Section 18-16-30, has resumed after being idle for a month, and is drilling at 3,636 feet in lime. Lockhart Brothers' No. 1 Hillyer (Parker permit) SW SW Section 10-17-30, is an abandoned location. A new operation is Maxmillian Friess' No. 1, NW NE SW Section 19-17-31, which commenced spudding on June 2. The Marland Production Co.'s No. 1 Cunningham, NE NE Section 8-20-30, is drilling at 70 feet. Flynn, Welch & Yates' No. 2 Gissler, SE cor. SW Section 12-17-30, half a mile northwest of the discovery well in West Maljamar, is drilling at 2,985 feet and had a show of oil at 2,955 feet.

Guadalupe County

In Guadalupe County, the Hanchett Oil Co.'s No. 1 Rutherford, SW cor. NE Section 24-8-24, is reported abandoned at 2,210 feet. The tools have been moved away, but the rig is standing. It had several bits and fishing tools in the hole.

In Roosevelt County, Sloan & Smith's No. 1 Lovern, C SE Section 4-3s-35, is bottomed at 3,740 feet in sandy brown lime and is shut down for casing. It had 1,500 feet of sulphur water in the hole at 3,720-30 feet.

In De Baca County, the Transcontinental Oil Co.'s No. 1 McWhorter, SW NW Section 6-3s-22, is drilling at 4,360 feet in sandy lime, and the same company is drilling at 514 feet in lime in its No. 1 Dunlap, SW NE NE Section 1-3s-21. The same company's No. 1 Robbins, SE cor. Section 1-14-28, in Chaves County, is shut down for engine repairs at 4,020 feet.

In Catron County, Fenner & Bailey's No. 1-S, NW SW Section 35-2n-16, previously reported made into a water well at 300 feet, is drilling at 431 feet in black sandy shale. The 6⅝-inch is at 300 feet. It cut a water sand at 396-397 feet.

In Otero County, Samuel Butler and

(Continued on Page 236)

SOUTH END TURNER VALLEY TEST HAS HEAVY WET GAS PRODUCTION

By Victor Lauriston
Staff Correspondent, Canadian Fields

CHATHAM, Ontario, July 20.—In the south end of the Turner Valley, Northwest-Associated's No. 1, LSD 6, Section 20-19-2w5, is reported drilling 227 feet in the lime with a heavy wet gas production. Mud under 3,000 lbs. pressure is being used to hold back the gas to permit a thorough test of the horizons below that in which Home's No. 1, same section, got its big production. The well could apparently be finished as a good commercial producer, and further extends the deep lime production south. The test is being drilled by Imperial Oil, Ltd., under arrangement with Associated Oil & Gas Co. which holds the lease.

Home Oil Co.'s No. 2, LSD 14, Section 20-19-2w5, was frozen off for a few days but blew back into production without any back pressure being applied, and is reported making around 600 bbls. This is the first instance of freezing in the south end of the field. Home's No. 5, LSD 7, same section, is reported rigging up. It is reported Home Oil Co. and Mill City Oils, Ltd., are negotiating for a merger which will give the Home company control of the Mill City acreage in the south end.

Royalite Oil Co.'s No. 21, LSD 1, Section 13-20-3w5, in the central section, is the latest to get the deep lime. It entered the lime at 4,308 feet, where 8¼-inch casing is being cemented. This gives the Imperial group five tests drilling simultaneously in the deep lime—North West-Associated's No. 1, Home's No. 3, Foothills' No. 2 and Royalite's Nos. 6, 19 and 21.

Hargal Oils' No. 1 has been spotted in Section 20-19-2w5 about 500 feet south and east of Home's No. 1. This test will be drilled by Imperial Oil, Ltd.

Central Section

In the central section, Okalta Oils' No. 1, LSD 1, Section 1-20-3w5 is getting a crude naphtha recovery of 400 bbls. from the deep lime.

Okalta's No. 4, LSD 8, Section 1-20-3w5, is rigged up ready to spud in. Cable tools and a combination rig with 114-foot derrick will be used, and a diamond drill will be used in the lime. Okalta's No. 5, LSD 7, same section, is rigging up to spud in before August 1. Okalta's No. 6 will be located early in August.

McLeod Oil Co.'s No. 1, 3 and 4, LSD 16, Section 1-20-3w5, are reported producing an aggregate of between 225 and 230 bbls. a day from the deep lime. McLeod's No. 3 is being tested by government engineers to determine if larger crude naphtha recovery from the wet gas is possible; the well has a very large wet gas flow, but has been making around only 50 bbls. a day. McLeod's No. 5, LSD 15, same section, south of McLeod's No. 3 and west of Regent's No. 1, is digging cellar.

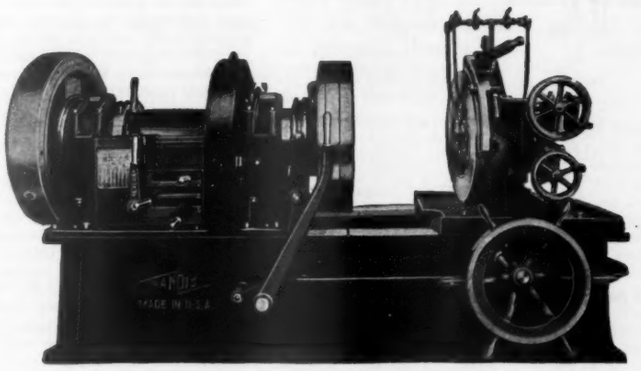
New McDougall-Segur Oil Co.'s No. 2, LSD 14, Section 12-20-3w5, is reported averaging 68 bbls. a day from the deep lime.

South End

In the south end of the field, Mercury Oils' No. 2, LSD 12, Section 4-19-2w5, is

(Continued on Page 211)

The LANDIS Line

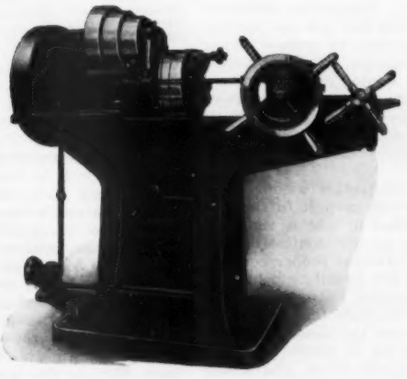


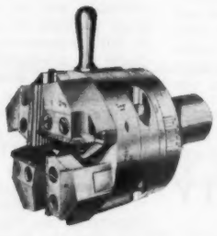
The Landis Pipe Threading and Cutting Machine is sturdy in construction and absolutely dependable in operation.

It is geared for high speed operation.

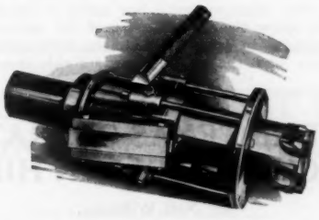
It employs the patented Landis Chaser, thus insuring an extremely low tool cost and the production of clearly cut, well formed threads.

The Landis Bolt Threading Machine is unequalled for the threading of bolts, rods or other small parts on a production basis. Owing, however, to its low maintenance cost and its flexibility, profitable operation is assured on "short run" jobs.

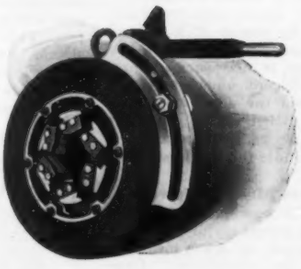




The LANDMATIC Head will lower threading costs and increases production on turret lathes.



The Victor Receding Chaser Tap insures more accurate threads and lower cost operation.



The Landis Stationary Pipe Die Head can be profitably applied to practically all pipe threading machines.

LANDIS MACHINE COMPANY, Inc.

Waynesboro, Penna., U. S. A.

REPRESENTED IN THE DOMESTIC OIL FIELDS BY: Colcord-Wright Machinery & Supply Co., St. Louis, Mo.; D. S. Mair Machinery Co., Houston, Tex.; Woodward, Wight & Co., New Orleans, La.; Herberts Machinery & Supply Co., Los Angeles; Herberts Moore Machinery Co., San Francisco, Calif.; Hendrie & Bolthoff Mfg. & Supply Co., Denver, Colo.

Interest Now Centers On New Gas Law

Supporters of California's Conservation Act Endeavoring to Eliminate Features Objected to by Certain Operators

By L. P. Stockman
Staff Correspondent, California Fields

LOS ANGELES, Calif., July 22.—The most important question in California at the present time, and of national interest also, is what effect the recently enacted gas conservation law will exert on future production. There is a wide diversity of opinion. One group holds that the law is unconstitutional. Another maintains that it will prove a panacea for all the ills incident to overproduction. Admittedly, the law as it stands has certain defects. Several operators have signified their intention of attacking its validity unless concessions are made by major operators, and at least in two instances it is to be challenged on general principles. Progressive operators who are sponsoring the law are making a determined attempt to remove objections and to eliminate all weak points. It is the general opinion that the success or failure of the law rests with the major California operators because of their dominating position and ability to store large quantities of surplus natural gas in depleted fields.

The bone of contention among California operators with respect to the new gas law is whether or not a rigid enforcement would involve confiscation of private property without proper compensation. The new law prohibits gas waste, but does not attempt to say just how operators shall eliminate this gas waste. It simply states that the blowing of natural gas into the air is prima facie evidence of unreasonable waste, and it provides machinery for the enforcement of regulations established. This portion of the law is believed to afford a reason for contesting the law as an operator might be able to prove by means of a gas oil ration that he is complying with the law in as much as gas is necessary to produce oil. State officials undoubtedly expect litigation when the new law is put into effect. James Bennett, a prominent lawyer of Los Angeles, was retained a few days ago to handle the legal aspect of the situation.

TANKER SHIPMENTS FROM LOS ANGELES TO ATLANTIC AND GULF COAST PORTS

Commodity—	Total this week	Daily average	Total last week	Daily average	This year to date	Same time last year
Crude oil	78,275	11,182	.....	.....	644,320	2,565,422
Fuel oil	.....	.....	.....	.....	49,950	111,621
Diesel and gas oil	.....	.....	.....	.....	913,200	1,234,927
Gasoline	597,619	85,374	230,897	32,985	11,365,336	7,301,228
Naphtha distillate	.....	.....	.....	.....	31,750	76,500
Coastwise—						
Crude oil	821,827	117,404	643,279	91,897	13,279,522	13,024,964
Fuel oil	299,796	42,828	312,438	44,634	11,794,446	9,443,890
Diesel and gas oil	23,255	3,322	18,033	2,576	715,595	685,122
Gasoline	316,948	45,278	137,378	19,625	5,892,645	4,224,018
Kerosene	.....	.....	2,185	312	38,157	50,903
Naphtha distillate	.....	.....	.....	.....	.....	171,566
Exports—						
Crude oil	128,994	19,856	2,150	307	2,938,644	1,316,385
Fuel oil	505,356	72,194	228,720	32,674	10,653,290	13,819,274
Diesel and gas oil	1,550	221	.....	.....	1,465,159	1,557,358
Gasoline	265,699	37,957	104,725	14,961	5,923,086	3,183,278
Kerosene	.....	.....	.....	.....	1,629,108	2,487,485

TANKER SHIPMENTS FROM SAN FRANCISCO TO ATLANTIC, GULF COAST PORTS

Diesel and gas oil	.....	.....	.....	.....	.....	342,425
Gasoline	.....	.....	78,059	11,151	1,189,377	1,357,567
Lubricants	.....	.....	.....	.....	69,172	208,024
Coastwise—						
Fuel oil	179,831	25,690	64,173	9,168	1,602,343	2,392,680
Diesel and gas oil	8,775	1,254	.....	.....	326,235	165,048
Gasoline	100,711	14,387	117,140	16,734	2,760,175	2,471,537
Kerosene	10,093	1,442	15,063	2,152	85,406	158,798
Exports—						
Crude oil	.....	.....	.....	.....	121,603	85,935
Fuel oil	.....	.....	.....	.....	395,731	1,503,016
Diesel and gas oil	.....	.....	.....	.....	155,474	10,400
Gasoline	94,580	13,511	.....	.....	3,100,079	2,582,381
Kerosene	.....	.....	.....	.....	382,417	362,852
Lubricants	.....	.....	.....	.....	21,899	11,400

Major Producers Must Co-Operate

It is declared the new gas law cannot be made operative unless major producers get together and work out some means of handling surplus gas production. Lawyers say it is unconstitutional unless the little operator is afforded the same means of disposing of surplus gas that the major company enjoys. Major companies have been holding meetings in an effort to solve this perplexing problem.

The law gives the State Oil and Gas Supervisor authority to take physical control of all wells which have not complied with regulations regarding gas waste and shut them in. It is asserted that no court would sustain any such drastic action if wells on adjoining acreage were permitted to flow to the maximum because the holder of the property had a valid contract to deliver his entire gas production to some public utility, and thus was complying with the law. The holder of such a sales contract would be privileged to drain the acreage of the operator who was not so fortunate as to have a sales contract.

Some have suggested that the entire gas production of each field be thrown into a common pool and that sales of natural gas to public utility gas companies be delivered out of the total. Those holding valid contracts with gas companies are reluctant to void any contract of this nature, taking the position that they should not be penalized because the other fellow did not have the foresight to consummate a similar agreement. This attitude is fast disappearing, however, as major companies realize that they must reduce their sales of natural gas or jeopardize the validity of the new law.

A second perplexing problem has arisen in connection with projected storage and repressuring operations. If a common pool is formed who will handle and deliver the surplus gas, and into whose property will it be injected? Those holding large acreage and having substantial production are averse to turning their production over to some general committee. They take the position that they should handle their own repressuring work, declaring that they know their own properties and do not intend to be penalized because they have had the good fortune to be successful in wildcat exploration. Every major company has completed a survey of its various properties in every field, and has estimated the total amount of natural gas which can be injected.

Will Take Advantage of Situation

All companies which have acreage susceptible to repressuring intend to take advantage of this situation as they thereby will be permitted to produce more oil in flush fields if they can take care of surplus by storing it in some other area. Will operators be penalized because of their ability to store their own surplus gas in depleted fields? Will the new gas law make it obligatory for them to take part of the general gas surplus in addition to their own simply because they have suitable reservoir storage which the other fellow does not possess? If they do take gas from the general surplus they automatically will cut down the amount of their own gas, which can be utilized and consequently be forced to reduce their crude oil production. Will the proration of sales contracts covering disposition of natural gas to public utilities prove sufficient guarantee to prevent court action on injunction proceedings?

Regardless of just how the situation is solved it is a foregone conclusion that there will be a reduction in California crude oil production if the new gas law survives the promised litigation. Every effort will be made to utilize the maximum amount of surplus gas from Santa Fe Springs, because very 1,000 feet injected into depleted horizons for storage or used for repressuring operations will be reflected in crude oil production. In order to utilize the largest amount of gas possible it has been suggested that all three upper zones be utilized at Santa Fe Springs for repressuring work. This involves the Foix, Bell and Meyer zones, and the proposed plan contemplates the suspension of all production activities in these horizons during injection of gas. The plan would provide an outlet for surplus gas and thereby permit larger production from the deep flush zones and at the same time increase future recovery from the shallow zones.

Adaptable at Santa Fe Springs

This repressuring plan is especially adaptable at Santa Fe Springs, but what is to be done at Elwood and other fields, where no shallow zones exist and the ability to move surplus gas out of the area is very limited? If the new gas conservation law is rigidly enforced, daily production at Elwood probably will be cut down well below 10,000 bbls. per day, unless some concession is made by state officials. Operators at Santa Fe Springs probably will be able to take care of a large quantity of natural gas by utilizing it for repressuring work, but at best crude oil production in this field will be cut severely. A rough estimate indicates that current production may be reduced 50 per cent so that Santa Fe Springs, along with other flush fields, will be vitally affected. Long Beach and other districts showing large production will reflect enforcement of the new gas law.

Fred G. Stevenot, director of natural resources, has served notice on all operators that the State of California expects to begin enforcing the new gas conservation law as soon after August 31 as possible. Several weeks necessarily will elapse before anything tangible can be done, owing to the legal routine which involves the posting of notices, the taking of evidence, right of appeal to State Commissioner, and finally a submission of the whole matter for court action.

Kettleman Hills Agreement

One of the most important developments of the past week was the tentative ratification of the Kettleman Hills pact whereby drilling and production activities will be restricted until July 1, 1931. A deadlock developed at the last moment, however, when Ellsworth McGowan served notce that his company, the Kettleman Oil Corp., would not sign the agreement as ratified because the three wells which will be permitted to produce in order to reduce the pressure on the Milham's discovery, would drain his holdings if permitted to produce indefinitely. The company has an aggregate of 1,760 acres. Mr. McGowan's objection was based on the assumption that the 10 per cent of production which would be prorated among operators retarding work, would not compensate for the oil lost from under his acreage because of drainage.

EAST CENTRAL TEXAS OPERATORS WATCHING WELL IN HILL COUNTY

By Neil Williams

CORSICANA, Tex., July 22.—Harper and Latson's No. 1 Jones, near Mount Calm, Hill County, continues to pump around 30 bbls. of oil and 10 per cent salt water daily, resulting in operators taking a little more interest in that area. The well, which opened a new pool in Hill County, was completed about four weeks ago from the Austin chalk at a total depth of 698 feet.

Because of the shallow level of the production the area is being drilled up rapidly with two other tests, Harper & Starkey's No. 1 Jones, and Fentress and associates' No. 1 Reynolds, drilled to the shallow chalk and rigging up to pump. McElmurry and associates' No. 1 Coates and Thomas & Bland's No. 1 Clark, in this vicinity, also are expected in the chalk, and several other tests are expected to get under way soon.

All the acreage at Mount Calm is held by small independent operators, and the large companies have taken little interest in the possibilities of that field, which it is expected will make only small pumpers.

Another producer was completed at Boggy Creek Dome in Anderson County, in Humble Oil & Refining Co.'s No. 3 Holloway, which flowed initially at the rate of 300 bbls. daily from sand at 3,633 feet. This is the first successful completion at Boggy Creek in several weeks.

Magnolia Enters Boggy Creek

Of chief interest at Boggy Creek was the entrance of Magnolia Petroleum Co., the first company outside of Humble Oil & Refining Co. and Rio Bravo Oil Co., the latter two operating jointly, to drill at this dome. Magnolia Petroleum Co. is moving in for its No. 1 Williams on the north side of the dome, following a recent settlement in which it was given title to a long disputed block of acreage.

Other operations at Boggy Creek are Humble's No. 1 Beard, south flank of the dome, drilling sand at 3,761 feet; No. 4 Holloway, rigging up; No. 2 Neches, building derrick; No. 3-A Elliott & Clark, drilling chalk at 2,704 feet; No. 3-A Todd, drilling shale at 2,892 feet.

Humble Oil & Refining Co.'s No. 3-A Southern Pine on the Posey Saline, 8 miles south of Boggy Creek in Anderson County, was abandoned as dry at 4,424 feet, marking another unsuccessful effort to find production in that area. However, another location has been made, No. 4, and a derrick is going up.

Pure Oil Co.'s No. 1 Jackson, Bethel Dome, Anderson County, is drilling con-

(Continued on Page 212)

An Excellent Practical Suggestion Which Appeared in THE OIL AND GAS JOURNAL

Before we read this suggestion a glance at the illustration alone convinced us that the author was referring to the Campbell Boiler Feed Water Regulator. There is nothing else like it in the world.

We did not know who the author of the suggestion was, consequently investigated and learned that it was none other than Roy O. Neal of the Neal Gasoline Company of Tulsa, Okla., a user of the Campbell Regulator who has given us permission to use his article as well as his name.

Mr. Neal's sketch of the working principle of the Campbell Regulator is correct, and his description is correct.

Many large oil refineries are now using the Campbell Regulator exclusively. Hundreds are in use. Typical testimonial letters are published below.

The Campbell is so successful in refineries because it is so dependable—so efficient—so economical. It has no moving parts, no floats, no weights, no thermostats, no generators. Nothing whatever to get out of order. What could be more desirable in any refinery? One engineer in a refinery, as a typical example, put a Campbell on his most troublesome boiler. His load fluctuated violently. The Campbell, as usual, took care of the situation without the least difficulty.

With the Campbell you may place the control valve anywhere. The connecting pipe may be of any length, any shape or size, crooked or straight. The only requirement is that it must be able to transmit pressure from one end to the other.

Any mechanic can install the Campbell. It is the easiest feed water regulator in the world to install, and it costs least to maintain.

A Practical Suggestion

BOILER FEED WATER REGULATORS

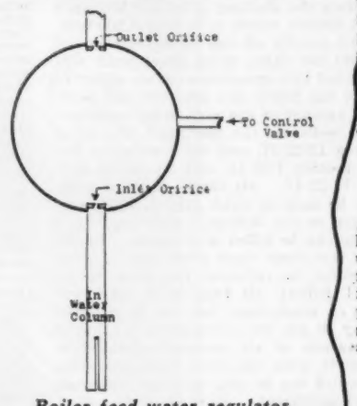
Probably no single automatic device will effect a more material saving than equipping hand-controlled boilers with feed water regulators. Water showing in the boiler gauge glass does not necessarily signify safe, efficient and economical operation. When water is carried too high, a sudden demand for more steam may cause water to swell and be carried over into the pumps, still and preheater.

When water is carried too low in gauge glass, a sudden change in load may cause the water to shrink out of sight, which not only creates an uncomfortable feeling but might cause a shut-down. A fluctuating water level causes a fuel loss which sometimes may be of consequence.

In the field there are two distinct types of regulators, one which depends on the expansion and contraction of a brass tube to actuate by a system of levers, a control valve on the feed water inlet; the other works on the drop in pressure between two orifices and will be described more in detail.

This regulator consists of a diaphram-operated control valve, installed on the feed water line, and a regulating element installed in the water column, that delivers to the control valve a pressure that gradually increases as the water level in the column increases beyond a certain predetermined level.

The pressure that is employed to operate the control valve is taken directly from the water column, and is delivered to the regulator through a small pipe that

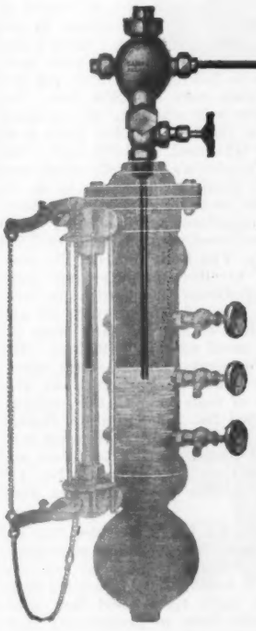


Boiler feed water regulator.

is slotted at the end. When water is a short distance below top of slot, dry steam is delivered to the regulator and its pressure reduced because the cross-sectional area of the outlet orifice in the discharge connection is considerably greater than the area of inlet orifice.

When water raises in column it will pass through inlet orifice where it immediately evaporates, increases the pressure and thereby causes control valve to close.

Practical suggestions by those connected with the construction and operation of natural gasoline plants are invited. Payment will be made as soon as suggestions are accepted. Address all communications to the Natural Gasoline Department, The Oil and Gas Journal, Tulsa.



(Patented)

What Refiners Say About the CAMPBELL Boiler Feed Regulator

"We have 15 Campbell Regulators in use in this district and they are taking care of our boiler feed regulation very satisfactorily. In fact they are the only regulators we have tried out that operated positively and lived up to the claims made by the manufacturer."

"We have had ten Campbell Regulators in service for better than a year and they have proven very satisfactory. As our boiler operations are very complicated we consider it a good test for them."

"We have 18 Campbell Regulators working under 125 lb. pressure. Two of them have been in operation for one year, the rest of them for about six months. They are giving very satisfactory results and so far have cost us nothing for maintenance."

"We have used Campbell Boiler Feed Water Regulators for about two years. These regulators are operating satisfactorily on low pressure at boiler ratings of 160% to 230%."

The above letters were *not* written to us. They were written to a consulting mechanical engineer during his investigation of the merits of the Campbell Regulator. We did not influence the writers of the letters in any way.

Use This Coupon

In addition to Feed Water Regulators we manufacture regulating valves for every purpose as listed below. This is our 27th year. Indicate the Atlas product in which you are interested and we will be pleased to give you full information. Also, we will send you a copy of our Atlas Junior Catalog No. 21.

Fill in, Tear off, and Mail

ATLAS VALVE COMPANY
REGULATING VALVES FOR EVERY SERVICE
287 South Street Newark, N. J.

ATLAS VALVE CO., 287 South St., Newark, N. J.

Without obligating me in any way, please send complete information on the Atlas products that I have checked below:

- ☐ Campbell Boiler Feed Regulators
- ☐ Atlas Pump Governors
- ☐ Atlas Reducing Valves
- ☐ Victor Temperature Regulators
- ☐ Victor Damper Regulators
- ☐ Atlas Float Valves
- ☐ Atlas Swing Joint Fittings
- ☐ Atlas Bronze Unions
- ☐ Standard Thermostats
- ☐ Atlas Balanced Valves

Name_____ Position_____

Firm_____ Address_____

The amended agreement submitted for ratification accordingly was referred back to the committee to harmonize this difference of opinion, and final ratification and signature is expected within the next few days. It is apparent that the Kettleman Corp. wants the privilege of producing a well.

The new Kettleman Hills agreement, which will become binding upon all operators in the north dome of the Kettle-Hills upon signature, was exactly the same as that recommended by the operators' committe except for one minor change. It calls for a complete shutdown until July 1, 1931, of all production work just as soon as the Milham's discovery well can be safely shut in. In order to facilitate the shutting in of the Milham's No. 1 Elliott, which is flowing 3,200 bbls. of 60.2 gravity oil and 70,000,000 feet of natural gas daily, three offset wells will be drilled into completion in an effort to reduce the heavy gas pressure and enormous amount of gas now being produced. These wells are the Marland's No. 18 in Section 12-22-17, and the Standard's No. 8 in Section 1-22-17, and No. 81 in Section 11-22-17. All three of these wells must be shut in until July 1, 1931, just as soon as the Milham's discovery No. 1 Elliott can be killed with safety. In the event that these three offset wells are not successful in reducing the pressure on No. 1 Elliott, all four wells may continue on production, but will be required to pay 10 per cent of production value to the owners of all properties located in the north dome who have completed wells, but which can be shut in under the terms of the agreement.

Seven Others May Continue Drilling

Seven wells in addition to those just mentioned will be permitted to continue drilling to a discovery to the satisfaction of Secretary of Interior Ray Lyman Wilbur in order to validate prospecting permits and justify the granting of leases. Individually these projects are the Shell's No.1 Armstrong in Section 8-22-18, George F. Getty's No. 1 Armstrong in Section 4-22-17, and his No. 6 Armstrong in Section 6-22-17, the Standard's No. 81 in Section 11-22-17, No. 1 Kennedy of the Milham, in Section 28-21-17, No. 1 Ferguson of the Bolsa Chica Oil Co., in Section 24-22-17, and No. 1 Watson of the Associated in Section 34-22-18. In addition to the wells just enumerated, which will be suspended when Secretary Wilbur is satisfied of discovery, No. 2 Elliott of the Milham, in Section 2-22-17, and No. 3 Elliott, of the Marland, in Section 2-22-17, will be permitted to drill down to the top of the oil sand. No. 27 Beal, of the Pacific Western Oil Co., in Section 34-21-17, will be permitted to drill into completion, while No. 1 Beal, of the Milham, in Section 34-21-17, can either drill down to the top of the oil sand or into production if necessary. In either case, however, these wells on the Beal permit must be shut in immediately upon completion. In addition to the three offsets of the Milham's discovery well, which will be drilled into completion in order to reduce gas pressure, No. 18 Elliott of the Marland, in Section 12-22-17, and the General Petroleum's No. 2 Ochsner, in Section 20-22-18, and No. 2 Ochsner in Section 26-22-18, will also be permitted to drill into completion. The offsets to the Milham's discovery will be allowed to continue on production as long as the discovery produces, but No. 18 Elliott, of the Marland, and the two Ochsner wells of the General Petroleum, must be shut in immediately subsequent to completion.

The successful conclusion of negotiations between Kettleman Hills operators, permittees, land owners and the United States Government will remove this threat from consideration until some time after July 1, 1931, provided interested parties affix their signatures. While the agreement will not become binding until it is signed, this is regarded as a mere formality, in as much as there was only one dissenting vote on the ratification. The successful consummation of this agreement should be particularly gratifying to Dr. George Otis Smith, the operators' committe which has been battling with the problem for many months, and to F. C. van Deinse, California oil umpire, under whose auspices these meetings have been held.

The past week witnessed completion of another large group of big wells in the Santa Fe Springs Field of Los Angeles Basin, where deep zone exploitation has been progressing at a rapid rate for several months, and a check indicates the probable completion of many more prolific producers during the next four or five weeks. A total of 82 drilling wells are scheduled for completion in the deep zone at Santa Fe Springs within the next six weeks, and a check indicates the probability that the peak will be reached somewhere around the middle of August. A preliminary survey indicated that the high point would be attained around the latter part of July, but operators now are drilling deeper into the upper part of the Clarke and will produce these two zones simultaneously. The upper 100 feet of the Clarke horizon, which will be produced in conjunction with the lower part of the O'Connell, has a terrific kick and operators are endeavoring to get the maximum penetration possible.

Daily production at Santa Fe Springs showed a further substantial increase during the past week, due to the completion of 12 new wells, which showed an aggregate initial daily production of 40,739 bbls. The General Petroleum leads the production list with a daily output of 65,000 bbls., followed by Union with 52,000 bbls., The Texas Company with 48,000 bbls., George F. Getty with 15,000 bbls., and the Associated with 12,000 bbls. The Union Oil Co. chalked up two excellent producers in the deep zone in the past week, and preparations are under way to finish several more within the next 10 days. The two new wells were No. 17 Alexander, which blew in flowing 8,610 bbls. of unusually clean 33.9 gravity oil and 11,000,000 feet of natural gas daily from 6,855 feet, and No. 41 Bell, which tanked 4,500 bbls. daily from 6,865 feet during the first 24 hours, but which subsequently built up to 6,914 bbls. The Union's No. 17 Alexander, incidentally, is the largest producing well in this field at present. The Texas Company's No. 4 Standlee, which is flowing 8,002 bbls. daily after having produced 330,000 bbls. during the first month after completion in the deep zone in the latter part of May, is next in line. No. 4 Baldwin, doing 7,680 bbls. daily, and No. 5 Wickman, flowing 7,100 bbls., are other large producers of The Texas Company, which has experienced unusual success in deep zone exploitation.

Getty Lists Three

George F. Getty listed three wells for completion in the deep zone, one of which, however, probably will require further work. This was No. 27, which is flowing 600 bbls. of fluid cutting 40 per cent daily from 7,703 feet. Getty's No. 24 Mitchell, however, was a good well, as it came in flowing 6,075 bbls. per day from the deep zone at 6,800 feet. No. 26, the other well completed by the Getty interests, is flowing 996 bbls. daily from the upper O'Connell at 6,508 feet. The Cypress Petroleum's big well, which was brought in about 10 days ago by K. G. Pulliam, Jr., is holding up in good shape, present production approximating 5,500 bbls., as compared with an initial of 5,585 bbls. daily. The Bell View Oil Co. completed an excellent producer last week when No. 3 Grohs was brought in flowing 5,440 bbls. of 33.4 gravity oil and 6,000,000 feet of wet gas daily from the upper O'Connell zone at 6,499 feet. The General Petroleum, largest single operator in the Santa Fe Springs Field with 58 strings of tools in operation, successfully finished No. 235 Santa Fe, flowing 2,550 bbls. of clean 33.4 gravity oil daily from the O'Connell zone at 6,486 feet, and followed this up by completing No. 113 Jalk, flowing 650 bbls daily from 8,002 feet.

The Standard Oil Co., which has not yet succeeded in developing substantial deep zone production, finished two new wells. No. 6 Johnson was completed doing 1,585 bbls. daily from 7,906 feet, while No. 8 Jordan blew in prematurely flowing 2,288 bbls, of 34.1 gravity oil and 2,400,000 feet of wet gas daily from 7,990 feet. The Bandini Petroleum, a subsidiary of the Wilshire Oil Co., chalked up another good well when No. 13 Off was finished doing 4,580 bbls. of clean 33.6 gravity oil and 7,800,000 feet of saturated gas daily from the O'Connell zone

(Continued on Page 212)

IMPORTANT NORTHERN CALIFORNIA WILDCATS

Company, well, location—	S-T-R	Depth	Status
Standard, No. 5-9 Saticoy	10- 2-22	7,400	br. sh. drilling
American Oil Co., No. 1 Camarillo, Ventura Co.	33- 2-20	1,208	testing
Bolsa Chica, No. 1-A Temescal, Ventura Co.	4- 4-18	641	reaming
Superior Oil Co., No. 1 Santa Paula, Ventura Co.	14- 4-21	520	suspended
Miley, E. J., No. 2 Red Mountain, Ventura Co.	7- 3-23	1,600	hd. sd. drilling
Shell, No. 1 Simi, Ventura Co.	31- 3-17	3,073	hd. sd. drilling
Continental, No. 1 Sulphur Mountain, Ventura Co.	21- 4-22	3,765	suspended
Continental, No. 2 Sulphur Mountain, Ventura Co.	22- 4-22	6,740	suspended
Continental, No. 3 Sulphur Mountain, Ventura Co.	21- 4-22	1,848	sd. sh. drilling
Lockwood Oil Co., Well No. 1, Ventura Co.	28- 8-21	151	sd. sh. drilling
Milham Explt'n., No. 1-A Buttonwillow, Kern Co.	8-28-23	4,662	gas well, idle
Milham Explt'n., No. 2 Buttonwillow, Kern Co.	8-28-23	2,730	gas well, idle
Milham Explt'n., No. 3 Buttonwillow, Kern Co.	8-28-23	2,694	gas well, idle
Milham Explt'n., No. 4 Buttonwillow, Kern Co.	6-28-23	2,670	gas well, idle
Milham Explt'n., No. 5 Buttonwillow, Kern Co.	5-28-23	2,500	gas well, idle
Milham Explt'n., No. 6 Buttonwillow, Kern Co.	8-28-23	2,676	gas well, idle
Milham Explt'n., No. 7 Buttonwillow, Kern Co.	6-28-23	2,720	suspended
Milham Explt'n., No. 8-A Buttonwillow, Kern Co.	8-28-23	2,673	gas well, idle
Milham Explt'n., No. 9 Buttonwillow, Kern Co.	8-28-23	2,350	set pipe
Milham Explt'n, No. 10 Buttonwillow, Kern Co.	8-28-23	2,428	testing
Lincoln Drlg. Co., No. 1 Buttonwillow, Kern Co.	6-28-23	190	suspended
Richfield Oil Co., No. 2 Semitropic, Kern Co.	36-27-23	7,618	set pipe
Stabler, W. W., No. 1 Comanche Point, Kern Co.	23-32-29	3,409	suspended
Elmer Oil Co., No. 1 Shafter, Kern Co.	8-28-25	6,100	suspended
Elmer Oil Co., No. 1 Bena, Kern Co.	15-30-30	3,000	suspended
Elmer Oil Co., No. 1-A Rosedale, Kern Co.	33-29-26	3,460	sd. sh. drilling
Taft Drlg. Co., No. 1 Union Avenue, Kern Co.	2-30-27	3,790	sd. sh. drilling
Shell Oil Co., No. 1 Lerdo, Kern Co.	5-29-27	4,000	sd. sh. drilling
General Pet., No. 1 McFarland, Kern Co.	25-26-25	5,900	br. sh. drilling
Union, No. 2 San Emidio, Kern Co.	5-10-21	3,740	suspended
Currency Pet. Co., No. 1 Jacalitos, Fresno Co.	28-21-14	2,302	fishing
Currency Pet. Co., No. 2 Jacalitos, Fresno Co.	14-21-14	350	redrilling
Hornaday & Huggins, No. 1 Kerman, Fresno Co.	32-14-18	3,715	suspended
Cates Oil Co., No. 1 Joaquin Ridge, Fresno Co.	7-19-15	114	suspended
Oceanside Oil Co., No. 1 Krayenhagan, Fresno Co.	33-22-17	738	suspended
Petroleum Securities, No. 1 Kerman, Fresno Co.	20-20-16	Mtl.	suspended
Petroleum Securities, No. 2 Kerman, Fresno Co.	28-20-16	997	sd. sh. drilling
Shell Oil Co., No. 1 Westhaven, Fresno Co.	24-19-18	2,524	survey hole
Shell Oil Co., No. 2 Westhaven, Fresno Co.	26-19-18	2,740	survey hole
Shell Oil Co., No. 3 Westhaven, Fresno Co.	27-19-18	2,260	survey hole
Shell Oil Co., No. 4 Westhaven, Fresno Co.	17-19-19	2,050	survey hole
Shell Oil Co., No. 5 Westhaven, Fresno Co.	6-20-18	Rig	rigging up
Pismo Dome Oil Co., No. 1 Pismo, San Luis Obispo Co.	5-32-13	360	sd. sh. drilling
Union, No. 1 Huasna, San Luis Obispo Co.	34-32-15	3,700	redrilling
Union, No. 1 North Huasna, San Luis Obispo Co.	12-32-14	3,578	br. sh. drilling
Midwest Refining Co., No. 1 Huasna, San Luis Obispo Co.	34-31-15	990	cemented
Panorama Oil Co., Well No. 1, San Luis Obispo Co.	7-31-21	3,965	br. sh. drilling
Paso Robles Synd., No. 1 Paso Robles, San Luis Obispo Co.	27-27-11	2,250	br. sh. drilling
Shell, No. 5 Guadalupe, Santa Barbara Co.	36-10-35	Mtl.	building rig
Shell, No. 2 Goleta, Santa Barbara Co.	36- 5-31	4,850	sespe, drilling
Petroleum Securities, No. 1 Goleta, Santa Barbara Co.	.....	3,594	sd. sh. drilling
Petroleum Securities, No. 1 Pomatto, Santa Barbara Co.	.....	2,095	sd. sh. drilling
Union, No. 1 Buel Canyon, Santa Barbara Co.	X- 7-31	1,622	redrilling
O'Neil, L. B., No. 1 Los Alamos, Santa Barbara	X- 8-32	471	sd. drilling
Western Gulf, No. 1 Point Conception, Santa Barbara Co.	X- 5-33	3,115	recemented
Standard, No. 1 Point Conception, Santa Barbara Co.	X- 5-34	2,428	idle, litigation
Standard, No. 1 Point Arguello, Santa Barbara Co.	4- 7-35	Rig	rigging up
Nevada Standard, No. 1 Goleta, Santa Barbara Co.	10- 4-28	4,560	suspended
Barnsdall, No. 3 Goleta, Santa Barbara Co.	.....	Mtl.	building rig
General Pet., No. 1 Elwood, Santa Barbara Co.	21- 4-28	4,320	gr. sd. drilling
Pacific Western, No. 1 Naples, Santa Barbara Co.	7- 4-29	3,375	sespe, drilling
Padre Oil Co., No. 1 Dos Pueblos, Santa Barbara Co.	18- 4-27	4,190	abandoned
System Oil Co., No. 1 Orcutt, Santa Barbara Co.	36-10-34	3,170	sd. sh. drilling
Keystone Oil Co., No. 1 Santa Maria, Santa Barbara Co.	33-10-34	1,018	sd. sh. drilling
Wildcat Oil Co., No. 1 Santa Maria, Santa Barbara Co.	20-10-35	101	sd. drilling
Keystone Oil Co., No. 1 Surf, Santa Barbara Co.	18- 7-35	129	sd. drilling
Gaviota Oil Co., No. 1 Surf, Santa Barbara Co.	18- 7-35	.....	location
Shell, No. 1 Summerland, Santa Barbara Co.	18- 4-25	Mtl.	suspended
Channel Oil Co., Well No. 1, Santa Barbara Co.	29- 4-27	6,304	suspended
Channel Oil Co., No. 1 Fellowship, Santa Barbara Co.	29- 4-27	1,300	sd. sh. drilling
Continental, No. 1 Carpenteria, Santa Barbara Co.	33- 4-25	4,130	gas well
Continental, No. 2 Carpenteria, Santa Barbara Co.	33- 4-25	4,314	br. sh. drilling
Colusa Oil Co., Well No. 1, Colusa Co.	31-15- 4	620	hd. sd. drilling
Italo American, Well No. 1, Colusa Co.	20-13- 3	781	hd. sd. drilling
North Counties Oil Co., Well No. 2, Humboldt Co.	36- 2- 1	2,205	suspended
Humboldt Oil Co., Well No. 1, Humboldt Co.	6- 2- 1	3,041	redrilling
Applegate & Renshaw, Well No. 1, Merced Co.	24- 6-10	3,750	hd. sd. drilling
Kuhns, H. L., Well No. 1, Merced Co.	8-12-19	640	gr. sd. drilling
Calhoma Oil Co., No. 1 Livermore, Alameda Co.	9- 3- 3	1,549	testing
Shell, No. 1 Dudley, Monterey Co.	15-22- 9	3,470	gr. sd. drilling
Union, No. 1 San Lucas, Monterey Co.	8-22- 8	1,018	fishing
Standard, No. 1 King City, Monterey Co.	X-21- 8	Mtl.	building rig
Marland, No. 1 Bradley, Monterey Co.	32-24-11	5,930	milling
Tuck Oil Co., No. 1 Los Gatos, Santa Clara Co.	15- 8- 1	852	suspended
Dudley Ridge Synd., No. 1 Tulare, Kings Co.	12-23-19	1,305	gas, shut in
Porter, H. B., No. 1 Devils Den, Kings Co.	9-24-17	Mtl.	building rig
O'Donnell, J. E., No. 1 Tulare, Kings Co.	7-23-20	Rig	rigging up
Associated Pet., No. 1 Lewis Creek, San Benito Co.	5-19-10	501	suspended
Twin States Oil Co., No. 1 Soldani, Mendocino Co.	14-12-17	417	hd. sd drilling

IMPORTANT SOUTHERN CALIFORNIA WILDCATS

The Texas Company, No. 1 Clearwater, Los Angeles Co.	8- 4-12	2,711	sd. sh. drilling
Standard, No. 1 Hawthorne, Los Angeles Co.	5- 3-14	6,090	gr. sh. drilling
Hummel, Joseph, No. 1 Redondo, Los Angeles Co.	28- 3-14	.....	location
Jackson, R. W., No. 1 Whittier, Los Angeles Co.	19- 2-11	1,477	suspended
Burlingham Pet. Co., No. 1 Compton, Los Angeles Co.	17- 3-13	2,204	suspended
Lee & Brainerd, No. 1 Rosecrans, Los Angeles Co.	17- 3-13	Rig	suspended
Johnson, D. W., No. 1 Compton, Los Angeles Co.	21- 3-13	.....	foundation
Jackson, R. B., No. 1 Compton, Los Angeles Co.	8- 3-13	Rig	suspended
Hansen, N. J., No. 1 Watson, Los Angeles Co.	17- 4-13	Rig	suspended
Easton & Smith, No. 1 Calabasas, Los Angeles Co.	19- 1-17	2,982	suspended
Pugh Miller Drlg. Co., No. 1 Calabasas, Los Angeles Co.	6- 1-17	2,550	suspended
Russell Oil Co., No. 2 Joughin, Los Angeles Co.	25- 3-17	1,704	cleaning out
Pomona Oil Co., Well No. 1, Los Angeles Co.	32- 1- 8	1,190	hd. sd. drilling
Beard, G. F., No. 1 Brea Canyon, Los Angeles Co.	30- 2- 9	715	sd. sh. drilling
Anchor Oil Co., No. 1 Puente, Los Angeles Co.	19- 2-10	4,820	suspended
Rucker, R. C., No. 1 Puente, Los Angeles Co.	27- 2-10	1,660	gr. sd. drilling
Urmi Oil Co., No. 1 Puente, Los Angeles Co.	31- 3- 8	211	sd. drilling
Shell, No. 1 Coyote, Los Angeles Co.	28- 3-10	4,199	sd. sh. drilling
Prairie Oil Co., No. 1 Montebello, Los Angeles Co.	32- 1-12	4,000	sd. sh. drilling
Monterey Park, No. 1 Jepson, Los Angeles Co.	25- 1-12	4,220	cleaning out
Union Oil Co., No. 1 Richfield, Los Angeles Co.	13- 3- 9	800	hd. sd. drilling
Southwestern Drlg. Co., No. 1 Richfield, Los Angeles Co.	21- 3- 9	5,760	gr. sd. drilling
Queen, J. M., No. 1 Newhall, Los Angeles Co.	22- 3-16	116	sd. drilling
Anderson, P. B., No. 1 Hasley Canyon, Los Angeles Co.	1- 3-16	490	cleaning out
So. Calif. Drlg. Co., No. 1 Newhall, Los Angeles Co.	13- 3-16	362	sd. sh. drilling
Pico Dome, No. 1 Hasley Canyon, Los Angeles Co.	14- 3-16	660	hd. sd. drilling
Calif. Eastern, No. 1 Wickham, Los Angeles Co.	32- 5-17	3,517	suspended
Coastline Oil Co., No. 1 Devil Canyon, Los Angeles Co.	21- 5-17	514	suspended
Mesa Pet., No. 1 Newport, Orange Co.	21- 6-10	4,664	gr. sd. drilling
Oil Well Eng. Co., No. 1 Newport, Orange Co.	21- 6-10	2,805	set pipe
Hall Pet. Co., No. 1-A Murrietta, Riverside Co.	23- 7- 3	Rig	rigging up
Hemet Pet. Co., No. 1 Ward, Riverside Co.	9- 5- 1	3,300	hd. sd. drilling
Imperial Valley Oil Co., Well No. 1, Imperial Co.	32-11-10	2,980	cleaning out
Davenport O. & G. Co., No. 1 San Marcos, San Diego Co.	30-12- 8	847	suspended
Turner, S. S., No. 1 Escondido, San Diego Co.	25-12- 2	2,035	sd. sh. drilling
Borderland Oil Co., No. 1 Encinitas, San Diego Co.	X-13- 4	Mtl.	building rig

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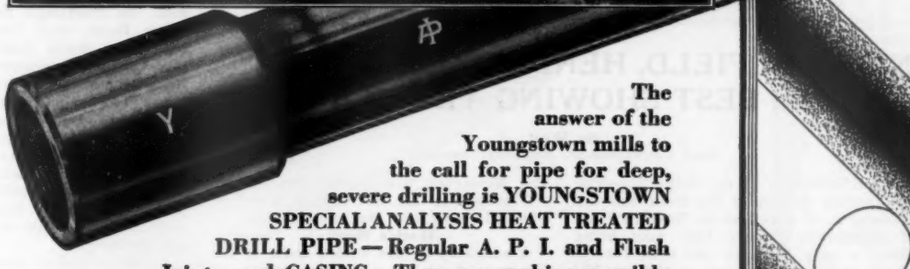

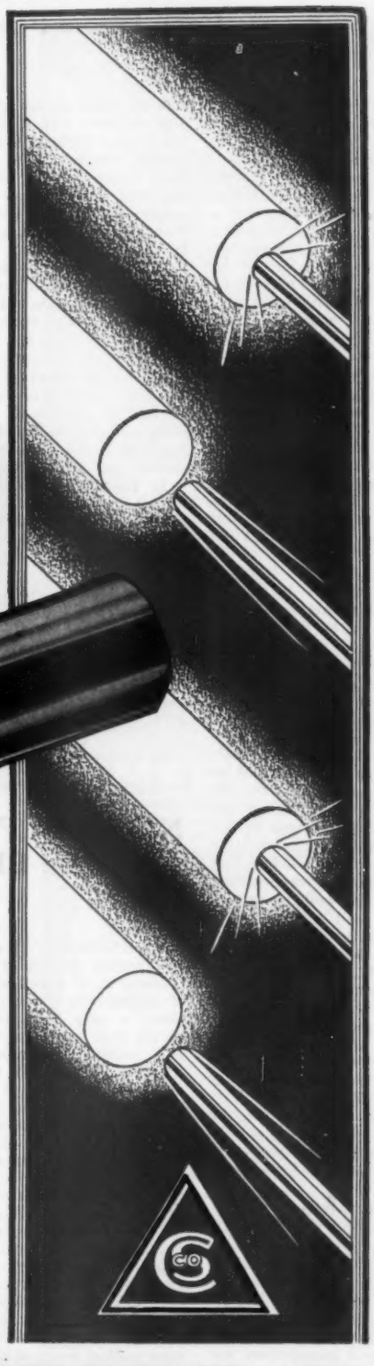

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CONTINENTAL

Old Tiffin Pool Attracting Attention

New Wharton Gas Field in Hancock County Has Good Completion. Plan to Drill 60 Wells in Heart of Structure

By Whit
Staff Correspondent, Central West Fields

FINDLAY, Ohio, July 22.—In the old Lima Field, the Tiffin or Seneca County area is once more attracting attention, since the completion of the big well on the Miller farm. There has been a strong leasing campaign around Tiffin since the big well was drilled in. J. H. Murphy & Sons, who made the discovery on the Charles Miller farm, Section 31, Pleasants Township, Seneca County, and sold the well and lease of 400 acres to the Ohio Oil Co., are again taking leases to develop, having taken leases on the Mark L. Leister and George E. Schrock farms, in Clinton Township, and will start testing them at once. The Ohio Oil Co. is reported to have a showing for a nice producer in the No. 2 on the Charles Miller lease. The Ohio company has taken additional leases from Levi and Viola Beaver, also in Clinton Township. H. B. Perkins, of Cleveland, landed a lease on the Minnie and Homer Zeis in Seneca Township, and Carl Burkhart of Youngstown secured a lease on the William and Rose Weinberger farm, in Clinton Township, all in Seneca County.

In the new Wharton gas field, in Delaware Township, Hancock County, extending across the line into Richland Township, Wyandot County, Harmon, Talbot and Watts, oil and gas operators of Mansfield and Columbus, have just drilled in their No. 1 on the Austin S. Hickle 113 acres, Section 7. This well tapped the Trenton Rock at 1,298 feet and drilled to a total depth of 1,315 feet, resulting in a real gas well gauging 555,000 feet naturally with 470 pounds rock pressure, making it the largest gas well in the new Wharton Field. The well was not shot, but shut in in its natural state. Same parties have made a location for No. 1 on the H. H. Howard 320 acres in Section 12. A large structure is being proven and there are now nine new wells in the Wharton Field. The gas is pure and entirely free of sulphur and the field strictly virgin. The Wharton Oil & Gas Co. owns five wells on the Wyandot County side while Harmon, Talbot and Watts have four new large producers on the Hancock County side. The latter parties control some 3,000 acres upon the heart of the structure and announce they will drill 60 wells.

CENTRAL OHIO

Thirty-three completions are reported from the Central Ohio fields, of which 16 were producers with a total initial production of 103 bbls., 4 dry holes and 13 gas wells. In new work under way or starting during the period there are 15 new locations staked and 19 wells started drilling. New work and completions are holding up far above expectations over all the counties included in the field.

In Ashland County, Greene Township, the Ohio Fuel Gas Co.'s No. 2-3,501, on the E. S. Glasco, Section 32, was a dry hole, and the same company is drilling No. 1-3,585 on the D. C. Baker, Section 3. In Vermillion Township, same county, the same company has a light gas well in No. 2-3,816 on the H. I. Long, Section 20. Same company made a location for No. 1-4,775 on the J. E. Laughery, Section 32, Orange Township, and starting drilling operations on No. 1-3,620 on the James Hess, Section 30, Jackson Township. In Lake Township, the Preston Oil Co.'s No. 2-1,326, on the Ellis A. Morris, Section 3, pumped an initial of 18 bbls. and shows a small amount of natural gas. Shelter and Shelter's test on the Cemetery Association property, Section 15, same township, is reported a dry hole at from 629 to 673 feet. B. Slagel has a very light gas well on the J. Anderson, Section 4, at from 563 to 570 feet. Robinson and others have a light gas well in No. 3 on the J. A. Heffelfinger, Section 16, Lake Township. Mohican Oil & Gas Co. is drilling No. 4 B. B. Chesrown, Section 3, same township. In Perry Township, Robinson and others have a dry hole on the W. E. Strine, in Section 20, at from 671 to 677 feet, where broken sand was encountered. Coast and others are drilling No. 6 on the Ed Barnhart, Section 29, same township.

In Medina County, Chatham Township, the East Ohio Gas Co.'s No. 5, on the J. and A. Jalensics, Lot 2, pumped 2 bbls. initial. Ohio Fuel Gas Co. is cleaning out No. 1-3,734 on the J. O. Bensinger, Lot 133, Harrisville Township.

In Lorain County, the Wiser Oil Co. brought in a nice gas well on the J. C. Palmer, Section 14, Carlisle Township. Ohio Fuel Gas Co. is drilling No. 1-4,741 on the Earl C. Fireback, Lot 21, Eaton Township.

In Wayne County, Congress Township, Hulse & Kundtz are drilling on the H. P. Myers, Section 16.

In Holmes County, Hardy Township, the East Ohio Gas Co.'s second test on the C. E. Schlarb, Section 18, is reported good for 25 bbls. and is drilling No. 1 J. F. Pyers, same section.

Coshocton County

In Coshocton County, Mill Creek Township, the Fender Oil Co.'s No. 5 Peter Fender farm, Section 1, produces 6 bbls. from 848 to 870 feet; No. 6 is producing 2 bbls. from 924 to 952 feet; No. 7 produces 1 bbl. from 907 to 939 feet; and No. 8 is a 3-bbl. pumper from 857 to 879 feet. In Clark Township, the Ohio Oil Co. is starting No. 15 on the Daniel Fair, Section 6. Ohio Fuel Gas Co. made a location for a second test on the Cornelia B. A. Cory, in the third quarter of Franklin Township. Same company made a location on the Lester Pretzena, in Crawford Township, and a location for No. 1-3,582 on the Jesse Grant, Section 12, Monroe Township. Bell Brothers are starting a test on the Fred S. Ringwalt, Section 7, Newcastle Township.

In Summit County, Franklin Township, the East Ohio Gas Co. brought in a nice gas well on the A. F. Smith, Section 25. F. A. Brendall and others made a location on the Edward Dunn, Section 34, same township.

In Licking County, Fallsburg Township, the Pure Oil Co.'s test on the F. E. Slabaugh, Section 8, is credited with an initial production of 15 bbls. in the Clinton lime formation at from 2,755 to 2,820 feet. Ohio Fuel Gas Co.'s No. 1-3,602, on the Tom Moran, Section 10, produced an initial of 5 bbls. from 706 to 715 feet. Preston Oil Co. made a location for a second test on the Wayland Ashcraft, Section 11, and the Emerald Petroleum Co. made a location for No. 6 on the John W. Little, Section 8, same township. In Perry Township, the Hope Construction & Refining Co. made locations for Nos. 1 and 2 on the James Wright, Section 14, and a location on the Hester A. Evans, Section 13, Hanover Township, while the North Fork Oil Co. has a showing for a light pumper in No. 6 on the J. C. Williams, Section 4, same township, from 569 to 580 feet. Ohio Fuel Gas Co. is drilling on the Louis J. Georgetta, Section 23, Madison Township. Heisey Gas Co. brought in a light gas well in No. 8 on the Joseph Davis heirs, Section 7, Licking Township, from 1,318 to 1,348 feet. Vaughn & Southerd are drilling No. 6 Dora E. Dustheimer, Section 6, Franklin Township.

Muskingum County

In Muskingum County, Perry Township, the Mid-East Oil Co.'s test, on the A. C. Spring, Section 16, is a duster in the Clinton lime from 4,020 to 4,045 feet, total depth 4,082 feet. L. E. Burley's test, on the Bowden Brothers, Section 16, was also a duster in the Clinton which was topped at 4,010 feet, with only a slight showing at 4,029 feet and drilled to a total depth of 4,108 feet. Ohio Fuel Gas Co. is drilling No. 1-4,750 on the E. H. Derry, Section 3, same township. Pure Oil Co. made a location for a second test on the Otis McKee, Section 11, Jackson Township.

In Athens County, Lodi Township, the Ohio Fuel Gas Co. has a nice gas well in No. 1-3,593 on the Francis F. Sargent, in fractional Section 36, in the lower Berea sand from 1,626 to 1,640 feet, total depth 1,648 feet. Ohio Fuel Gas Co. has a reported location on the Rosa Jesten, in fractional Section 12. In Rome Township, the same company has an average sized gas well in No. 1-3,599 on the W. and C. Richardson, Sections 1 and 31, in the Maxon sand from 945 to 948 feet. In Berne Township, the same company is drilling No. 3-3,522 on the C. D. Henry, Section 24, and also drilling No. 1-3,590 on the Flora Fleming, Section 35.

In Meigs County, Sutton Township, the Preston Oil Co.'s No. 1-958, on the Robert Crew, Section 23, pumped 3 bbls. initial from the upper Berea sand from 1,680 to 1,698 feet, total depth 1,702 feet. Same company's No. 6-1,316, on the Carl J. Easterday, Section 18, pumped 6 bbls. in the same formation from 1,725 to 1,745 feet, total depth 1,748 feet. Tyree and others' No. 2 on the Mary Jividen, Section 23, same township, pumped 2 bbls. initial in the upper Berea sand from 1,651 to 1,669 feet, and also found a light gas well in No. 6 on the Hanna M. Capehart, Section 30, same township, in the upper Berea sand from 1,830 to 1,860 feet. Tyree and others are drilling No. 11 William Carnahan, Section 11, same township, and the Southern Ohio Petroleum Co. is drilling on the R. B. Sellers, Section 36. In Chester Township, Frick and Barnaby's No. 6 on the Wesley Genheimer, Section 21, pumped 4 bbls. initial from the upper Berea from 1,906 to 1,918 feet. In Bedford Township, the Ohio Fuel Gas Co. is drilling No. 2-4,735 on the John Heilger, Section 32.

Jackson County

In Jackson County, Franklin Township, the Ohio Fuel Gas Co. has a light well in No. 3-3,497 on the W. E. Forshey, Section 22, in the Clinton lime from 2,530 to 2,543 feet, total depth 2,548 feet. Same company made a location for No. 8-4,759 on the L. N. P. Poland, Section 21, Washington Township.

In Vinton County, Knox Township, the Co-operative Oil Co.'s No. 4, on the

(Continued on Page 276)

NIAGARA FIELD, HENDERSON COUNTY, HAS BEST SHOWING YET REPORTED

By Whit
Staff Correspondent, Kentucky-Tennessee

OWENSBORO, Ky., July 22.—The outstanding feature of the week was the bringing in of a well in the Niagara Field of Henderson County that may bring about a play there in the near future, as the well was reported as high as 100 bbls. initial, but reported at 75 bbls., which is sufficiently large to encourage development work. This new well if it lives up to what it is reported will be the best development by far yet made in Webster, Union, Hopkins and Henderson Counties where drilling has been going on for about two years. Small wells have been the result of former test work, but the new well makes such a nice showing it is believed new production may be developed in that part of the field equal to some found in Ohio and Daviess Counties. The new well had 42 feet of sand, which is reported to be the Sebree sand. In this well 6 feet of sand was found in the Jett at 576 feet, but the tools were pushed down until 700 feet was gone through where the heavier showing was encountered. Henderson County has no pipe line to care for production and this well may encourage the laying of a line by the Illinois Pipe Line Co., which would then have some good looking production between where the Creek Drilling Co. brought in two good producers near St. Joseph, in the western portion of Daviess County.

Another interesting find is that of Daley and Lowman, Cleveland, Ohio, operators, on the firm's coal company lease, near Victoria in Hancock County. This well is near the hole drilled several years ago by McGarvey, an Englishman. The McGarvey well was drilled to a total depth of about 3,400 feet but did not develop a commercial producer. The Daley and Lowman test is reported to show for 30 bbls. and looks like a new development. The McGarvey well is the deepest hole yet drilled in the Tri-County Field of Ohio, Hancock and Daviess Counties.

Week's Work

A summary of the week's work in the Kentucky fields show 41 completions, 22 producers with an initial production of 1,357 bbls., 18 dry holes and 1 gas well.

County—	Oil Comp.	Wells	Prod.	Dry	Gas
Ohio	19	12	894	7	0
Daviess	5	4	275	1	0
Barren	7	3	8	3	1
Larue	4	0	0	4	0
Clay	2	0	0	2	0
Muhlenburg	1	1	75	0	0
Henderson	1	1	75	0	0
Hancock	1	1	30	0	0
Morgan	1	0	0	1	0
Total	41	22	1,357	18	1

Ohio County

In the Friendship Church area of Ohio County, Sirman's No. 20 on the Nancy Farmer's farm, is credited with an initial better than 300 bbls. In the Ellis Bartlett Pool, near Taffy, Hupp and Duff's No. 11 on the L. Trodgen 57 acres, produced 200 bbls. initial. Cumberland Petroleum Co. drilled a duster on the Cicero Wade, in advance of the same pool. In the Friendship Church area, Ogle and Maxey's No. 7 on the Payton Royal, is reported showing for 60 bbls., and No. 9 same lease for 50 bbls.

In the Bells Run Field, Weir & Stewart have a dry hole on the Walker farm. In the Kelley Pool, Snowden-McSweeney Co.'s No. 8 on the Ada Kelley 64 acres, came in dry at 505 feet. W. J. Flesher drilled a dry hole on the J. W. Howard in the Ward Pool, at a depth of 810 feet. Dearborn Oil Co.'s No. 3 on the R. M. Miller 53 acres, same pool, produced but 2 bbls. initial. Butte Dredging Co. found a duster in No. 7 on the Allie Evans 104 acres, same pool. In the same

(Continued on Page 166)

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CONTINENTAL

More Drilling in the Eastern Fields

Activity in Counties That Have Not Been Busy for Years. Lincoln County Continues to Lead All West Virginia Counties

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Staff Correspondent, Eastern Fields

PITTSBURGH, Pa., July 22.—Large producers were conspicuous by their absence in the completed list in the eastern fields, the week ending without the completion of a large well, the best not better than a 50-bbl. producer. Southeast Ohio and West Virginia each had one. There is one thing noticeable, there are more wells drilling or starting in counties in which there has been nothing doing for many years. No large wells are expected at any of these locations.

Operators would gladly resume wildcatting if there was any locality that looked capable of furnishing even light pumpers. Very few places remain that have not been fully tested and found barren. In many sections none of the producing formations have been found. When this occurs it is very discouraging. This has been frequently the case in the southwest counties in West Virginia. In some of the southeast Ohio tests the producing formations have been encountered but they contain no oil or gas.

The best well completed in southeast Ohio was the Murphy Oil Co.'s second test on the J. W. Little farm, in the NE Section 9, Fallsbury Township, Licking County. It produced 50 bbls. the first 24 hours after shot in the Clinton sand.

WEST VIRGINIA

West Virginia completed one much better than average well. It had been many weeks since better than a light pumper had been completed. In Grant district, Ritchie County, Edwin J. Lynch completed in the Big Injun sand No. 11 on the Cornelia Storrs farm. It produced 50 bbls. the first 10 hours. In Church district, Wetzel County, the Maxon Oil Co.'s No. 11 on the Sarah Shea farm is showing for a light oil producer.

In Center district Calhoun County, the Gerwig & Kothe Oil & Gas Co. completed in the Big Injun sand No. 10 on the A. Hardman farm. It is a light gasser. In the same district, on the Kanawha River, Oscar Garrison completed a duster in the same formation on the Beth-Stevens farm. On Anna Mariah Creek, Sheridan district, B. J. Crowley completed a test on the W. W. Simmons farm, showing for a 5-bbl. pumper in the Big Injun sand.

In Elizabeth district, Wirt County, Porter A. Abbott has completed a duster on the Alonzo Daniels farm. In Burning Springs district, George B. Varner had a very light pumper at No. 44 on the W. M. Gibson farm. In Clay district, E. Hayhurst and others are drilling on the W. A. Lewis farm.

In Parkersburg district, Wood County, H. H. Uhl & Co. have completed a duster on the Parkersburg Sand & Gravel Co.'s property. In Williams district, the Kingwood Orchard Co. is due in the sand on its own property. In the same district, C. E. Reynolds has a duster on the John Russell farm.

In McKim district, Pleasants County, Charles Hastings has a duster on the Saul Robinson farm. In Sheridan district, Calhoun County, Thomas Crowley has a very light pumper at No. 3 on the George Cooper farm. In Center district, W. H. Bickel has a Big Injun sand gasser on the Frank Johnson farm. In Lee district, F. F. McIntosh has a rig up on the J. G. Riddle farm. In Union district, Lincoln County, the United Fuel Gas Co. has a gasser in the Berea grit at No. 3,910 on the Horse Creek Land & Mining Co.'s tract.

On Burkes branch Big Sandy district, Kanawha County, 1,200 feet southeast of No. 2,549 on the King Land Co.'s property, the United Fuel Gas Co. has completed in the Weir sand No. 2,450 on the same tract a gasser good for 200,000 feet. On Elk River, the same company has completed in the Big Injun sand on the J. V. Derrick farm, a gasser good for 150,000 feet. On Mud Lick Run of Leatherford Creek, Big Sandy district, the United Fuel Gas Co. completed in the Weir sand No. 2,596 on the Lewis heirs farm. It is a light gasser.

On the head waters of Mill Creek, Elk district, Kanawha County, 2½ miles east of the same company's test on the W. D. Lewis farm, the United Fuel Gas Co. has cleaned out and shot an old gas well on the J. M. Stanton farm. It is now producing 3 bbls. a day. This well was completed 15 years ago. On the head waters of the same stream, the same company has the rig completed on the Elk River Coal Co.'s property. This location is 4½ miles east of the company's test on the W. D. Lewis farm.

In Harper district, Roane County, the United Fuel Gas Co. has decided to drill deeper on the J. W. Westfall farm. This location is 2 miles south of the South Penn Oil Co.'s test on the Marion McCoy farm. In Grant district, Pleasants County, Frank Knox and others have a duster on the D. R. Westbrook farm. In McKim district, the Delong farm Oil Co. had the same luck at No. 9 on the C. R. and R. J. Delong farm.

In Sherman district, Calhoun County, Hope Natural Gas Co. has completed in the Big Injun sand a 5-bbl. pumper on the Hagan Barr farm. In Harper district, Roane County, the United Fuel Gas Co. has drilled a test on the J. W. Westfall farm into the Salt sand good for 500,000 feet. This location is in advance of developments on the right hand fork of Elk River.

Lincoln County Gassers

In Duval district, the Downing Gas Co. has a Berea grit gasser at a second test on the Ned Davis farm. In the same district, C. C. Wolfe has a gasser in the same formation at a second test on the Malinda Meadows farm. In Carroll district, the Cove Gas Co. has a gasser in the same formation. In Jefferson district, the United Fuel Gas Co.'s No. 3,900 is a gasser. In Sheridan district, C. C. Wolfe's second test on the A. C. Sloan farm is a fair gasser in the Berea grit. In the same district, the Empire State Gas Co. has a gasser at No. 16 on the L. R. Sweetland farm. In the same district, the Foote Oil & Gas Co. has a gasser on the Perry G. Johnson farm.

In Sherman district, Calhoun County, C. B. Lewis gave his test on the Eva Hathaway farm a shot, increasing its production from 10 to 30 bbls. a day. In Grant district, Cabell County, the Penn Natural Gas Co. has a gasser in the Berea grit on the C. F. Chapman farm.

In Murphy district, Ritchie County, Haught & Co. are rigging up on the Church lot. In Grant district, Swingle & Ingram are fishing on the George Morris farm. In Harrisville, Murphy district, John Herman and others have started to drill on the A. C. Woodford lot. In Grant district, R. C. Jackson & Co. have a rig up on the Alva H. Phillips farm. R. C. Deem and others have started to drill on the A. Hall heirs farm. In Mannington district, Marion County, Monroe & Laughlin are drilling on the Mary Stiles farm.

In Clay district, Monongalia County, the Carnegie Natural Gas Co. has a gasser in the Bayard sand on the R. F. McCord farm. In Troy district, Gilmer County, C. M. Bennett & Co. drilled deeper on the Allen Burton farm. It is a duster in the Big Injun sand. In Murphy district, Ritchie County, the Hope Natural Gas Co.'s No. 7,262 is a gasser in the Big Injun sand.

Calhoun County

In Lee district, Calhoun County, the United Carbon Co.'s test on the Laura Hall farm is dry and abandoned. In Sherman district, Godfrey L. Cabot's No. 3 on the W. T. Rafferty farm is a gasser, showing a little oil. In Center district, the Gerwig Oil & Gas Co. drilled deeper No. 15 on the M. Hardman farm and have a gasser in the Big Injun sand. In same district, W. H. Bickel has a gasser in the Maxon sand on the Ida Johnson farm.

On Lynn Creek, Spencer district, Roane County, Grow & Decker have completed a light gasser spraying a little oil on the C. A. Kendall farm. The location is 500 feet southwest of the company's test on the I. N. Morford farm. Two miles in advance of production in Curtis district, Roane County, D. W. Law & Co. have a rig completed on the L. M. Riddle farm.

On Sycamore Creek, Sherman district, Calhoun County, C. B. Lewis has completed in the Big Injun sand a test on the Eva Hathaway farm, showing for a 10-bbl. pumper. In Spencer district, Grow & Decker are drilling on the C. A. Kendall farm. In Geary district. the United Fuel Gas Co. is drilling on the Catherine H. Nixon farm. In the same district, the Virginian Gasoline & Oil Co. has a 5-bbl. pumper at a second test on the W. C. Tallman farm.

Drilling and Starting Tests

In DeKalb district, Gilmer County, the Hope Construction & Refining Co. has the rig completed for a second test on the Frederick B. Wilt farm. In Harper district, Roane County, the United Fuel Gas Co. has started to drill deeper its test on the J. W. Wilt farm. In Union district, Ritchie County, the Pittsburgh & West Virginia Gas Co. has a rig up on the Boyd Ward farm. In Union district, the Hope Construction & Refining Co. is drilling a second test on the J. F. Riggs farm. In Murphy district, Weirick & Snyder have a rig up on the Zack Weirick farm. In Burning Springs district, Wirt County, R. C. Waggoner & Co. have a rig up on the William Living farm. In Clay district, Ritchie County, Robert Bachelor and others are drilling on the E. C. Pierpoint farm.

Ritchie County

In Grant district, Ritchie County, Harvey Satterfield has a rig up on the W. F. Payne farm. In Lee district, Calhoun County, F. F. McIntosh is building a rig on the George Griffith farm. In Center district, Gilmer County, the Carnegie Natural Gas Co. is drilling on the D. G. Stout farm. In Ellsworth district, Tyler County, J. H. Pentz has made the location for a second test on the Timothy Smith farm. In McElroy district, local parties have made a location on the Marion Williams farm.

In Grant district, Ritchie County, Park Bowser has started to drill on the W. R. Baker farm. In Grant district, R. C. Jackson & Co. have a rig up on the Alva Phillips farm. In the same district, B. F. Deem & Co. are rigging up on the A. Hall heirs' farm.

In Union district, Harrison County, Lynn S. Horner has started to drill on the Lee McGanahan farm. In Geary district, Roane County, the United Fuel Gas Co. has rig up on Kate Nixon farm. In Walton district, the same company has a rig up on the D. K. Little farm. In Ripley district, Jackson County, the Parsons Oil & Gas Co. has started to drill on the F. F. Starcher farm.

On Big Run of Cow Creek, Troy district, Gilmer County, the Carnegie Natural Gas Co. has completed in the Big Injun sand a light gasser on the J. A. Rymer farm. In McClellan district, Doddridge County, Trainer Brothers & Ash have drilled down from the Big Injun sand to the Bayard sand an old well on the Irvin Bates farm. It has a light gas pressure in the lower formation.

In Sherman district, Calhoun County, the Hope Construction & Refining Co. has the rig completed on the F. S. Barr farm. On Parish fork, Clay district, Wirt County, Porter Abbett has a rig completed on the W. T. Roberts farm.

Lincoln County

In drilling and starting new work, Lincoln County is leading all other counties in West Virginia. In Jefferson district, the Russell Gas Co. is drilling on the John Linville farm. In the same district, the Cecilia Gas Co. has started to drill a second test on the Croft Land Co.'s property. In Carroll district, L. R. Sweetland is drilling on the Joseph Holton farm. In McComas district, Cabell County, the Hamilton Gas Co. is drilling on the Oliver Peyton farm. In Grant district, the United Fuel Gas Co. has rig material on the L. A. and J. J. Sowards farm. In the same district, the Hamilton Oil & Gas Co. has rig material on the J. L. and Alice McGraw farm. In the same district, the Harshbarger Oil & Gas Co. has made location on the Wesley Meadows farm.

SOUTHEAST OHIO

At the present time the southeast Ohio fields are completing very few wells. In the SW Section 25, Coal Township, Perry County, the Kachelmacher estate, has completed in the Clinton sand No. 3 on the Hemlock Coal Co.'s property. It produced 10 bbls. the first 24 hours after shot.

The A. H. Heisey Co. has completed in the Cinnamon sand No. 5 on the James Davis farm, in Section 14, Licking Township, Licking County. It is a gasser good for 100,000 feet.

Meigs County

Activity in Meigs County continues. In Sutton Township, O. L. Barneby has completed No. 6 on the Wesley Geinheimer farm. It is a 5-bbl. pumper in the Berea grit. In the same township, R. C. Miller & Co. have completed No. 3 on the W. B. Cross farm. It is dry in the Berea grit. In Section 20, C. W. Caywood & Co. have a duster in the Berea grit on the W. Wolfe farm. In the same township, G. N. Tyree has a 6-bbl. pumper in the Berea grit. In the same township, the Twenty-Five Association, Inc. has a 15-bbl. pumper at No. 1 on the W. F. Carnahan farm. In Sutton Township, R. C. Miller & Co. have started to drill on the W. B. Cross farm. The Ohio Fuel Supply Co. is drilling a second test on the John Jeitzer farm. Keith Thompson and others have started to drill on the Mary F. Beaver farm.

Noble County

In the NW Section 31, Enoch Township, Noble County, the Permian Oil & Gas Co. has completed in the Berea grit No. 1 on the Oliver Mallett farm. It is a gasser. In Section 32, same township, B. E. King and others have a duster in the Buell Run sand on the R. A. Green farm. In Section 35, Albert Miller & Co. have a very light pumper at No. 7 on the Herman Williams farm. In Section 19, Enoch Township, McKee Brothers are drilling on their own farm. In Section 31, T. A. Clark and others have a rig up on the Robert Bryan farm. In Enoch Township, George L. Clay &

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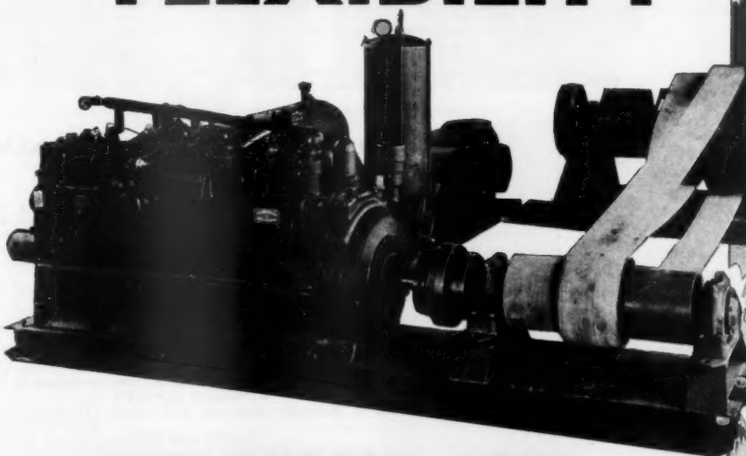

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CONTINENTAL

WILDCAT OPERATIONS IN OKLAHOMA

(Descriptions are East and North unless marked otherwise)

(Continued from Page 67)

HASKELL COUNTY

Holden's No. 1 Phillip, SE cor. Sec. 5-9-18e .....Shut down; show of gas 1,700 ft.
Marion Oil's No. 1 Sanders, NW NE SW Sec. 10-9-18e..Shut down 2,387 ft.
Sanboise Gas' No. 1 Unknown, SW NW SE Sec. 32-9-21e..Shut down 2,100 ft.

HUGHES COUNTY

Whitney et al's No. 1 Moore, SE SW Sec. 17-5-9 .....Drlg. 3,935 ft.
McGee Co.'s No. 1 fee, SE cor. Sec. 25-8-11e .....Drlg. 3,610 ft.
The Texas Company's No. 1 Bryan, SE NE SW Sec. 9-6-8e .....Plugging back to 2,660 ft.

JACKSON COUNTY

Altus Oil Co.'s No. 1 Northington, NE cor. NE Sec. 4-1-20w .....Shut down 2,020 ft.

KINGFISHER COUNTY

Galt Brown's No. 1 Wolf, NW SE Sec. 6-16-7w .....Fishing 5,195 ft.
McKenna & Crawford's No. 1 Sturgeon, NE cor. SW Sec. 27-16-6w .....Shut down 4,895 ft.

KIOWA COUNTY

Hyde et al's No. 1 Jones, SE cor. Sec. 23-3-15w-50 .....Drlg. 375 ft.
S. H. Christian's No. 1 Stone, SE cor. Sec. 18-7-18w ....Rig on ground.
Merrick Oil Co.'s No. 1 Kelly, NW cor. SE Sec. 20-7-17w..Shut down 1,025 ft.
McWharter and others' No. 1 Sherwood, CWL NW NE Sec. 2-5-17w .....Drlg. 880 ft.

LEFLORE COUNTY

Red Bank Oil Co.'s No. 1 fee, SE SW NE Sec. 23-9-24 ....Underreaming 8-in. csg. 2,795 ft.

LATTIMER COUNTY

Limestone O. & G. Co.'s No. 1 Shaw, NW cor. NE NW Sec. 23-5-18e .....Rig.
Limestone Oil & Gas Co.'s No. 1 McMurray, SW cor. SW Sec. 15-5-18 .....Fishing 3,954 ft.

LINCOLN COUNTY

Phillips Pet. Co.'s No. 1 Stephens, SE cor. NW Sec. 29-12-3 .....Rig.
Morgan & Flynn's No. 1 Finlay, SW cor. SW Sec. 19-16-6 .....Water 4,210 ft.; drlg. 4,220 ft.

LOGAN COUNTY

Haley & Smith's No. 1 Guier, SE cor. SW Sec. 33-18-3w..Shut down 3,970 ft.

McINTOSH COUNTY

Western Natl. Gas' No. 1 Wells, CEL SE NW Sec. 15-11-17 .....Machine.
Holden's No. 2 Phillips, C SE SE Sec. 3-9-15e .....Drlg. 300 ft.
Spring Valley Oil Co.'s No. 1 Carr, SE cor. NE NW Sec. 16-10-13e .....Drlg. 1,800 ft.
Patterson and others' No. 1 Smith, SW cor. NW SE Sec. 32-9-16 .....Shot 240 qts. 5,446-5,559 ft.; shot went off up hole; fishing.
Wolfe and others' No. 1 Unknown, NW cor. SE Sec. 15-12-18 .....Rig on ground.

MAJOR COUNTY

Earl and others' No. 1 Turner, C NE NE Sec. 23-20-14w..Rig.
Wilson and others' No. 1 Unknown, NE cor. NE Sec. 4-23-16w .....Shut down 510 ft.

MUSKOGEE COUNTY

Sioux Oil Co.'s No. 1 Unknown, NW SE Sec. 21-11-19 ....Machine.
Bradley's No. 1 Anderson, NW NW SW Sec. 26-15-19e ..Drlg. 530 ft.
Cooper-Badget's No. 1 Young, NW NE NE Sec. 7-12-20e..Shut down 50 ft.
Tulkogee Oil Co.'s No. 1 Thompson, NW NE Sec. 31-15-20e .....Abandoned.
Slusher's No. 1 Barnes, NE cor. Sec. 22-13-19e .....Abandoned.
J. L. Slusher's No. 1 Nave, NE cor. SW NW Sec. 20-15-20 .....Abandoned 775 ft.

NOBLE COUNTY

Blackwell O. & G. Co.'s No. 1 Foster, C NE NE NW Sec. 8-22-1w .....Spudding.
Gypsy Oil Co.'s No. 1 Bailey, C NE NE Sec. 24-22-1e ....Drlg. 2,900 ft.
Magnolia Petroleum's No. 1 King, C SE SW Sec. 26-20-1w..Drlg. 1,700 ft.

OKFUSKEE COUNTY

Superior and others' No. 1 Carolina, SE cor. Sec. 6-11-7e .....Rig.

OKLAHOMA COUNTY

Mid-Kansas' No. 1 Trosper, NE NW Sec. 19-12-1w .....Drlg. 5,695 ft.
Hall & Briscoe's No. 1 Holmes, NE cor. SW SE Sec. 10-11-2w .....Shut down 4,750 ft.

PITTSBURG COUNTY

Galbreath's No. 1 Snyder, C W half SW Sec. 28-4-13 ....Drlg. 100 ft.
Empire O. & R. Co.'s No. 1 Unknown, C NE SE Sec. 33-7-16e .....Location.
Kerr & Koy's No. 1 Hall, C NW NW Sec. 32-4-13 .....Drlg. 2,406 ft.

PONTOTOC COUNTY

Indian Territory Illuminating Oil Co.'s No. 1 Shoate, C NE SE Sec. 1-4-4 .....Location.

POTTAWATOMIE COUNTY

Keister & Manning's No. 1 Tibbs, NE SW Sec. 9-8-4 ....Rig on ground.
Amerada's No. 1 Vineyard, NW NE NE Sec. 15-7-2 .....Spudding.
Gypsy Oil Co.'s No. 1 Randosh, NW NE Sec. 23-6-4 .....Spudding.
Frank Moore's No. 1 Fundis, SE NE Sec. 19-7-2 .....Location.
Phillips Pet. Co.'s No. 1 King, NW cor. Sec. 26-8-4 .....Drlg. 2,040 ft.
Sinclair and Mid-Continent's No. 1 Cumings, SE NE SE Sec. 6-7-5 .....Drlg. 3,716 ft.
Shaffer and Margay's No. 1 Murphy NW NE Sec. 11-6-3 .....Drlg. 2,630 ft.
Cal-Cul Oil Co.'s No. 1 McKnight, NW cor. NE NW Sec. 9-8-3 .....Drlg. 1,940 ft.

ROGER MILLS COUNTY

Bucy & Stone's No. 1 William, C SW Sec. 23-12-24w .....Location.
L. C. Hivick's No. 1 Davis, C NW NE Sec. 4-11-26w ....Shut down 1,300 ft.

SEMINOLE COUNTY

McCullough Oil Co.'s No. 1 Luckett, NE NW Sec. 28-10-5..Rig on ground.
Prairie & Slick's No. 1 Harjo, NW SW Sec. 36-6-6 ....Location.
Harris' No. 1 Harjocke, SE NE SE Sec. 5-6-6 .....Location.
Prairie's No. 1 Mingo, NW NE Sec. 25-6-6 .....Bad hole 2,262 ft.
Indian Territory Illuminating Oil Co.'s No. 1 Factor, SW NE SE Sec. 3-5-7e .....Abandoned 4,768-78 ft.
Continental Oil Co.'s No. 1 Proctor, SE cor. NE NE Sec. 5-8-8e .....Shut down 4,355-75 ft.; water.

SEQUOYAH COUNTY

Hunt and others' No. 1 Unknown, SE cor. NW SW Sec. 12-12-23 .....Shut down 1,105 ft.
Buffington and others' No. 1 Melcher, C SW NW Sec. 31-12-24 .....Shut down 3,000 ft.

WOODS COUNTY

Peerless O. & G. et al's No. 1 Cromwell, SW SE Sec. 14-28-16w .....Rig on ground.
E. K. Miller's No. 1 Copenhavers, NW cor. NW Sec. 16-24-13w .....Rigged up and shut down.
Gypsy-Prairie and others' No. 1 Thompson, SE cor. SW Sec. 10-25-15w .....Drlg. 5,616 ft.
Sinclair Oil & Gas Co.'s No. 1 Steward, C SW SW Sec. 33-27-16w .....Drlg. 4,526 ft.

WOODWARD COUNTY

Farrond et al's No. 1 Unknown, SE cor. SW SE Sec. 3-23-17w .....Shut down 1,387 ft.
Prairie Oil & Gas Co. and others' No. 1 James, NE cor. NW Sec. 23-23-17w .....Rigging up standard tools 4,298 ft.
Billy's Oil Co.'s No. 1 Watt, C SE Sec. 9-23-20w .....Shut down 3,813 ft.
Burgoyne Brothers' No. 1 Merkins, SW cor. SE NE Sec. 15-21-19w .....Shut down 1,910 ft.
Wilson and others' No. 1 Unknown, NE cor. SW Sec. 4-23-16w .....Shut down 510 ft.

SOUTHERN OKLAHOMA

ATOKA COUNTY

Wapanucka Oil Co.'s No. 1 Banks, CWL SE SE Sec. 28-2s-9 .....Shut down 1,530 ft.

BRYAN COUNTY

Marshall et al's No. 1 fee, SE NW NW Sec. 26-5s-7 ....Spudding.
Wheeler & Wiley's No. 1 Pitts, NW cor. Sec. 36-6s-9e..Drlg. 775 ft.
Yale Oil Syndicate's No. 1 Craige, C NW NE Sec. 36-9s-9e .....Shut down 1,550 ft.

CARTER COUNTY

L. J. Woodruff's No. 1 Zellnear, NE cor. NW SE Sec. 34-4s-1 .....Shut down 1,855 ft.
Avon-Dickey's No. 1 Anderson, NE cor. SE NE SE Sec. 32-4s-2 .....Shut down 420 ft.

CHOCTAW COUNTY

Choctaw Petroleum Co.'s No. 1 Wilson, SW cor. SW Sec. 15-6-9 .....Shut down 1,346 ft.

COTTON COUNTY

Fain & McGaha's No. 1 Mason, NW SW SW Sec. 29-4-11w .....Drlg. 120 ft.
Hedrick et al's No. 1 Bull, SW SE Sec. 3-15-10w .....Shut down 2,303 ft.
Birdwell et al's No. 1 Means, SE SW SW Sec. 24-1-11w..Drlg. 2,361 ft.
Amerada Pet. Corp.'s No. 1 Dulaney, SE cor. NW NW Sec. 31-4-9w .....Drlg. 3,090 ft.

JEFFERSON COUNTY

Pierce & Brown's No. 1 Fisher, SE SW Sec. 13-6s-7w ..Drlg. 375 ft.
J. A. Porter's No. 1 Paddock, NE NW NE Sec. 35-5s-7w ..Location.

JOHNSTON COUNTY

Smith & Knisely's No. 1 Lane, E half Sec. 29-1-7 .....Shut down 2,090 ft.

MARSHALL COUNTY

Neif & Sneed's No. 1 Goff, SE NE SE Sec. 21-7s-5 ....Location.

McCURTAIN COUNTY

Utopia Pet. Co.'s No. 1 Unknown, SE NW Sec. 14-9s-25..Location.
Milton et al's No. 1 Vase, SW NW Sec. 26-6s-21 .....Drlg. 1,000 ft.

MURRAY COUNTY

Bison Oil Co.'s No. 1 Labor, NW cor. Sec. 17-1-2e .....500,000 ft. gas and show of oil 2,185-2,228 ft.; cleaning out 2,279

STEPHENS COUNTY

Pace and others' No. 1 Woolsey, SE SW NE Sec. 4-35-6w .....Rig.
Leath et al's No. 1 Handley, SE SW Sec. 24-2-9w .....Drlg. 2,330 ft.
Wirt Franklin Pet.'s No. 1 Spain, SW SE NW Sec. 9-2-5w .....Drlg. 3,218 ft.

TILLMAN COUNTY

Cochran & Ridgway's No. 1 Barnes, C NW NE .....Cellar.
Landfair and others' No. 1 Smith, SE SW SE Sec. 6-2s-15w .....Shut down 2,535 ft.
Allen & Treadwell's No. 1 Howell, NW cor. SE Sec. 13-1-17w .....Shut down 320 ft.

OKLAHOMA PANHANDLE

Magnolia Pet. Co.'s No. 1 School, C SE NE Sec. 32-5-5....Water 4,105-25 ft; shut down.
Skaer's No. 1 Hitch, NW cor. Sec. 25-1-15e .....Shut down 250 ft.

WILDCAT OPERATIONS IN KANSAS

(Continued from Page 68)

Slick & Cornell's No. 1 Gatz, NW cor. SE Sec. 26-23-1e....Shut down 3,506 ft.; water.
Jolly & Ogg's No. 1 Randall, NE cor. NE Sec. 11-24-1w..Shut down 3,444 ft.
Patton et al's No. 1 Dunning, SE cor. SW NE Sec. 26-24-2..Abandoned 3,507 ft.
Rosenthal et al's No. 1 Ingalls, C NW SW Sec. 24-23-3w..Drlg. 2,950 ft.
Jolly & Ogg's No. 1 Hupp, SE cor. NE Sec. 22-23-1w ....Fishing 3,220 ft.

HODGEMAN COUNTY

Phillips Pet.'s No. 1 Hausman, NW NE Sec. 30-22-22w ..Drlg. 385 ft.

JEFFERSON COUNTY

Wichita Oil Co.'s No. 1 Simpson, NW cor. SW SW Sec. 19-10-17 .....Rigged up and shut down.

KIOWA COUNTY

Wilcox Oil & Gas Co.'s No. 1 Woodward, NE cor. Sec. 35-27-17w .....Shut down 3,885 ft.
British American-M. M. Valerius, NE cor. Sec. 35-27-17w..Location.

KINGMAN COUNTY

Gypsy Oil Co.'s No. 1 Kincaid, NE cor. NW Sec. 18-29-5w .....Drlg. 4,380 ft.

LANE COUNTY

Robinson's No. 1 Dickerson, Sec. 11-18-27w .....Shut down 2,650 ft.
Blankenship Pet. Co.'s No. 1 Schaeffer, NE cor. NE Sec. 24-16-28w .....Spudded and shut down.

MARSHALL COUNTY

Skelly Oil Co.'s No. 1 Mehl, NW NE Sec. 11-20-4e.....Abandoned 2,649 ft.
Irwin et al's No. 1 Cooper, NE NW Sec. 10-3-7e.....Shut down 3,240 ft.
Empire O. & R. Co.'s No. 1 Scally, SW NE NE Sec. 28-19-2e .....Hole full water 3,132-47 ft.; abandoned.

MARION COUNTY

Shell Pet. Corp.'s No. 1 Scully, NW NE Sec. 34-18-2e ....Drlg. 1,060 ft.
Hobworth et al's No. 1 Skiles, SE NW NW Sec. 30-21-3e..Drlg. 2,658 ft.
General Utilities Co.'s No. 1 Propp, NE cor. SE SW Sec. 8-19-4e .....Drlg. 1,100 ft.
Frank L. Moore's No. 1 Miller, NE cor. NE Sec. 28-19-1..Shut down 3,364-85 ft.; water.

McPHERSON COUNTY

Lario et al's No. 1 Diener, SE SW Sec. 10-20-1w .....Location.
Perry et al's No. 1 Wade, C SE Sec. 20-19-4w .....Location.
E. W. Marland's No. 1 Swanson, NE SW NE Sec. 36-18-4w..Drlg. 700 ft.
Slick, Pryor & Lockhart's No. 1 Gratton, C NE NW NW, Sec. 34-20-3w .....Drlg. 2,150 ft.
Helmerich & Payne's No. 1 Klassen, SE NE NE Sec. 14-21-1w .....Drlg. 1,880 ft.
McPherson Oil & Gas Co.'s No. 1 Decker, C SE Sec. 11-19-2w .....6-in. csg. 2,887-2,914 ft.
Helmerich & Payne's No. 1 Rosen, NE cor. SE SW Sec. 25-21-2w .....Drlg. 3,027 ft.
McPherson Gas Co.'s No. 1 Chinberg, NW cor. Sec. 18-19-2w .....Drlg. 2,932 ft.
McPherson O. & G. Co.'s No. 1 Rasmusson, SW cor. Sec. 8-18-2w .....Shut down 2,445 ft.
Ted Washabaugh's No. 1 Vosshell, NE cor. NE Sec. 9-21-3w .....Fishing 3,301-04 ft.; show of oil.
McPherson Gas Co.'s No. 1 Reitz, NW cor. SE SW Sec. 1-20-2w .....Completed 2,935-66 ft.; 1,000 bbls.
J. H. Tatlock's No. 1 Hayer, C SW NE Sec. 32-20-1w....Drlg. 3,110 ft.

NORRIS COUNTY

Hiatt et al's No. 1 Blythe, NW NE Sec. 15-5e.....Underreaming 2,250 ft.

NESS COUNTY

E. W. Marland, Inc.'s No. 1 Moses, NE SE Sec. 7-18-25w..Drlg. 2,340 ft.
Barnsdall Oil Co.'s No. 1 Lauk, C SW Sec. 35-18-21w....Drlg. 4,455 ft.

OSAGE COUNTY

Goebel-Bending's No. 1 Bartee, C SW SW Sec. 28-17-15..Shut down 1,190 ft.

OSBORNE COUNTY

Phillips Pet. Co.'s No. 1 Greive, NW SE NE Sec. 6-7-12w..Drlg. 650 ft.
Mid-Kansas' No. 1 Boyce, SE cor. NW Sec. 18-6-13w....Drlg. 650 ft.
Trees Oil Co.'s No. 1 Payenter, NE cor. SE SE Sec. 23-6-15 .....Drlg. 3,100 ft.
S. D. Jarvis' No. 1 Jellison, SE cor. SE Sec. 13-10-15w...Fishing 3,577 ft.

OTTAWA COUNTY

Anderson et al's No. 1 Bank, NE cor. NW Sec. 28-10-2w..Abandoned 3,755 ft.

PAWNEE COUNTY

F. C. Troupe's No. 1 Lovett, CEL NE NE Sec. 31-21-16w.Shut down 1,560 ft.

PHILLIPS COUNTY

Watsonian-British American's No. 1 Wellman, C SW SW Sec. 34-2-19w .....Drlg. 3,020 ft.

PRATT COUNTY

O'Haver & Jones' No. 1 Lunt, C SW NW Sec. 15-28-14w..Fishing 2,540 ft.

RENO COUNTY

Empire O. & R. Co.'s No. 1 Henderson, SW cor. Sec. 35-25-4w .....Drlg. 3,800 ft.
Skelly Oil Co.'s No. 1 Birkett, NE SW Sec. 30-24-7w....Drlg. 1,598 ft.
Perry et al's No. 1 Oswald, NE cor. NE SE Sec. 30-22-5w .....Abandoned 4,065-72 ft.

(Continued on Page 205)

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Schleicher County Wildcat Gets Show

Phillips Petroleum Co.'s Test on Big Block of Acreage Encounters Oil at 4,110 Feet. Irion County Well Slumps

By L. E. Bredberg
Fort Worth Bureau, The Oil and Gas Journal

FORT WORTH, Tex., July 22.—A wildcat in Schleicher County which encountered a showing of oil from 4,110-12 feet provided the most interesting news in the West Texas area during the past week. This county has received but slight attention heretofore.

The Phillips Petroleum Co.'s (Interstate Exploration Co.'s) No. 1 Whitten, located 1,320 feet from the north and west lines of Section 35, Block LL, T.C.R.R. Survey, 4 miles north of El Dorado, in the above county, encountered the showing of oil and the hole filled up from 300 to 400 feet with fluid at 4,131 feet, two-thirds of it being light green oil. Total depth of the hole is 4,137 feet. The water is thought to be coming from leaky casing set at 3,390 feet, and 6⅝-inch casing, with packer, is to be set to shut off the water, enabling a good test to be made.

This well and 4,000 acres surrounding it was reported to have been purchased by the Phillips Petroleum Co. several months ago, from the General Securities Corp., after the well had been drilled below 3,500 feet. The Sun Oil Co. and Humble Oil & Refining Co. own comparatively close-in acreage, the majority of it around the well held by the Phillips company and a few independents.

New Well Slumps Off

Brown & Fox's No. 1 Tankersley, located in the northeast quarter of the south half of the Ford Willig Survey, Section 712, Irion County, which opened a new pool in that area of the Permian Basin, and was put on the pump the past week after encountering a pay formation at 1,333 feet, and completed at 1,335 feet, has slumped off to 55 bbls. daily, or approximately half of its initial production, consequently showing up like the rest of the small producers in Irion County, which promised new pools, but soon fell off to nothing themselves, and caused the losing of interest in their vicinity.

It is still doubtful as to who will take the production from this well, as no contract has yet been reported, and no line is being laid. The production is now going to storage, which is almost full, and more tanks will have to be set unless the output is purchased at once, and some other disposition made of the production. This well was shown on a plat in The Oil and Gas Journal last week as being in the northeast corner of the section, but this was a general error carried by practically everyone interested, and the correct location is 160 feet from the north line and 200 feet from the east line of the S half, Section 712. Hodge and Baker's No. 1 Tankersley, an east offset, is drilling below 600 feet. It is 1,320 feet from the north line and 150 feet from the west line of Section 23, G. C.&S.F. Survey.

W. A. Moncrief and others' No. 1 Massie, located in the SE, Section 47, Block UV, G.C.&S.F. Survey, Crockett County, which last week promised the opening of a new pool in this county, also caused expectations to slump, for when it was drilled to 1,450 feet it encountered 3 bailers of sulphur water per hour from 1,447-50 feet. It has been plugged back to 1,441 feet and the water shut off. For the last five days it has averaged 20 bbls. on the swab, with no water, thereby proving up a new area, but holding out nothing big at present, although other tests which are now going down will prove whether or not Crockett County is to have a new pool in this sector.

J. D. O'Mara's No. 1 Butz, in Section 54, Block 10, H.&G.N. Survey, 3 miles south of the Pecos Valley oil pool in Pecos County, is shut down at 1,375 feet, after topping the pay at 1,338 feet in sandy shale. It swabbed 25 bbls. of oil in 12 hours and swabbed dry, casting a rather gloomy reflection upon the well, and giving but small promise of at least a small producer, although it produced about 15 bbls. daily for a few days while standing at a total depth of 1,359 feet, before it was deepened to 1,375 feet.

Shows Better After Shot

On the north of the above mentioned pool, the Doran & McGee's No. 1 Pecos Valley Oil Co., located in Section 34, one-half mile north of the discovery well, was showing up a little better, after it was shot with 30 quarts from 1,540-80 feet. In the first 19 hours it flowed 15 bbls., or showing up for a promise of about a 22-bbl. well. Total depth of this well is 1,670 feet. The first show of gas was struck at 1,515 feet, and an estimated 6,000,000 feet of gas was encountered at 1,540 feet, but this later decreased to about 2,000,000 feet. The well was plugged back to 1,580 feet before it was shot.

A few weeks ago the eastern side of Howard County had a good showing in a wildcat test in that area, and it looked quite as if a pool would be opened by Gibson & Johnson's No. 1 Read in Section 47, Block 30, Township 1n, T.&P. Survey. The well was drilled to a total depth of 2,975 feet after encountering the pay from 2,703-08 feet, but the owners plugged back to 2,945 feet after encountering considerable water. A 120-quart shot was placed from 2,902-40 feet, and after standing three days filled 1,000 feet with oil. It was put on pump and pumped 37 bbls. the first four hours, pumping off, and after standing 14 hours pumped 25 bbls. in 7 hours and pumped off. Later it pumped 17 bbls. on a test and averaged 2 bbls. of water per day. Other tests will no doubt be made in this vicinity to give it a more thorough trial, and there is a possibility of a pool being opened on this side of the county, although this well does not savor of much of a producer.

Will Make Deep Test

When the Phillips Petroleum Corp. encountered a good showing in its No. 1 Courtney (Pryor), 440 feet south and east of the NW cor., Section 78, Block OW, T.&M.R.R. Survey, Pecos County, and pumped over 300 bbls. of oil it was the harbinger of a shallow pool in that part of the county, but when it started sloughing off in production the company started drilling deeper. The last report showed it drilling at 2,200 feet with no showings or increases below the first pay at 1,345 feet, and the company will probably go to 4,000 feet, the previous intended depth, before abandoning or plugging back to produce the above pay. The west offset test drilled by the same company 250 feet from the north and east lines of Section 77, Block OW, T.&M. R.R. Survey, was abandoned as dry this week at a total depth of 1,450 feet, defining the possibilities in that direction, and if there is to be a pool in this locality it will have to run in the various other directions.

The Yates Pool, Pecos County, pulled another spectacular bit of news during the week when the Mid-Kansas Oil & Gas Co. and Transcontinental Oil Co. brought in a good producer in their No. 30 Yates, located northwest of the most easterly NE cor., Section 32, in the I. G. Yates vacancy strip. This phenomenal well topped a shallow pay from 245-50 feet and was shut down at 278 feet flowing 769 bbls. the first 24 hours. Later it was put on the pump and pumped only 110 bbls. in 21 hours through 3-inch tubing, and 120 bbls. in 24 hours. Several other wells in the field have picked up this pay, but only two have been produced from it for any length of time, and it is quite probable that the companies will deepen this well to the deeper pay horizons if it slumps off any appreciable amount in production.

The A. & F. Oil Co.'s No. 1 Turner in Section 19, Block 33, Township 2s, T.&P. Survey, Glasscock County, northeast of the No. 1-C World discovery, is not showing up as it was expected, for it is now being reamed down to lower casing, total depth being 2,510 feet. A few small showings have been encountered above, but none large enough to produce. The Pool was believed to be destined to run in the direction towards this well, and if it does not pick up a good sized pay horizon before going much deeper, there will be a great question as to its possibility of extending the new pool.

The Big Lake Oil Co. set a record string of casing during the past week in its deep test, No. 131 University. One hundred twenty-five sacks of cement were used and 7,806 feet of special 5-inch casing, believed to be the longest string east of California. This well is one of the present four being drilled by the company to pick up the Continental's (Texon Oil & Land Co.) No. 1-B University which is producing from 8,525 feet in the Big Lake Field.

ESTIMATED DAILY AVERAGE PRODUCTION WEST TEXAS

Week ending July 22

County—	Wells	Prod.
Crane County	308	36,328
Crockett County	43	1,719
Ector County	3	....
Fisher County	7	1,005
Glasscock and Howard	355	42,898
Jones County	83	3,415
Loving County	12	711
Mitchell County	141	2,735
Pecos County	313	141,066
Reagan County	243	17,937
Runnels County	3	45
Scurry County	5	31
Upton County	238	9,191
Ward County	7	1,408
Winkler County	602	140,200
Total this week	2,362	398,689
Total last week	2,358	381,309
Difference	5	17,380

WILDCAT OPERATIONS IN WEST TEXAS

Week Ended July 20

Company, farm and location—	Remarks—
ANDREWS COUNTY	
Mid-Continent Oil & Gas Co.'s No. 1 Fisher, 1,320 ft. N and 200 ft. E of SW cor. Sec. 5, Blk. A-36	Top salt 1,720 ft.; running 8¼-in. casing 3,355 ft.; rainbow show oil 4,476 ft.; 3,700 ft. salt water in hole 4,658 ft.; total depth 4,670 ft.; plugging back.
BORDEN COUNTY	
Louisiana Oil & Ref. Co.'s No. 1 York, 330 ft. from N. and 1,320 ft. from W Sec. 322, Blk. 97, H.&T.C.R.R. Sur.	Location.
Moncrief et al's No. 1 Munger, C of SW Sec. 14, Blk. 31	Moving in material.
Teas & Wheeler's No. 1 Long, 1,320 ft. N and E of Sec. 27, Blk. 30, T.&P. Sur.	Drlg. 682 ft.
BREWSTER COUNTY	
E. W. Bateman et al's No. 2 Nevill, 2,000 ft. S and W line of Sec. 62, Blk. 13, G.H.&S.A.R.R. Sur.	Location.
Brewster Oil Co.'s No. 1 fee, 2,640 ft. S and 2,598 ft. E of NW cor. Sec. 45, Blk. G-15, G.C.&S.F.	Fishing 1,935 ft.
Cowden & Bowser's No. 1-A Jackson & Harmon, Sec. 1, Blk. 331, T.C.R.R. Sur.	Set 8-in. 1,530 ft.; shut down 2,000 ft.
Forrest Oil Co.'s No. 1 Skinner, C SW SE Sec. 100, Blk. 2, G.C.&S.F. Sur.	Shut down 300 ft.
J. M. Hickey's No. 1 Jackson & Harmon, NE cor. Sec. 182, Blk. 9, G.H.&S.A. Sur.	Shut down 1,302 ft.
Johnson & Weekley's No. 1 Jackson & Harmon, C Sec. 104, Blk. 10, G.H.&S.A. Sur.	Drlg. 1,870 ft.
Van McPhail's No. 1 McIntyre, SE cor. Sec. 59, Blk. 352, 7 mi. S of Alpine	Shut down 1,740 ft.
COKE COUNTY	
Lipan Oil Co.'s No. 1 E. C. Rawlings, Sec. 390, Blk. 1-A, H.&T.C. Sur., elev. 2,750 ft.	Cleaning out 2,855 ft.
Mid-Kansas Oil Co.'s No. 1 W. E. Lackey, 330 ft. N and E of SW cor. Sec. 272, Blk. 1-A, H.&T.C.	Pay 3,755-56 ft.; 6⅝-in. casing set 3,451 ft.; drlg. 3,852 ft.
Ray E. McCamey et al's No. 1 McCutcheon, 2,300 ft. S and 785 ft. W of NE cor. of T. J. Hines Sur. No. 4	Drlg. 3,355 ft.
CONCHO COUNTY	
Duffy et al's No. 1 Gilliam, 1,520 ft. N and 1,120 ft. W of SE cor. Sec. 21, Blk. 10, H.&T.C.R.R.	Spudded and shut down.
Jones & Leiner's No. 1 Jones, 420 ft. S and 15 ft. E of NW cor. John G. Reh Sur. No. 1,878	Top lime 1,770 ft.; top pay 1,775-80 ft.; 18 ft. oil in hole; to test; 1,975 ft.; fishing.
Turner et al's No. 1 Borsig, 150 ft. from S of SE cor. G. Emig Sur. 130, 6 miles west of Paint Rock	Drlg. 167 ft.

(Continued on Page 199)

WEST TEXAS COMPLETIONS

Week ending July 20

Howard County

Moody Oil Corp.'s No. 15 Dora Roberts was drilled to a total depth of 1,433 feet, topped the pay at 1,352 feet and had an initial production of 125 bbls. Its No. 18 Dora Roberts topped the pay at 1,340 feet, was drilled to a total depth of 1,415 feet and had an initial production of 50 bbls.

Jones County

Grisham-Hunter Corp.'s No. 2 Tiner had an oil show at 2,500-17 feet, and was dry and abandoned at 2,543 feet. Phillips Petroleum Corp.'s No. 4 Pomroy topped the pay at 2,496-2,500 feet, was drilled to a total depth of 2,503 feet and had an initial production of 20 bbls.

Sterling County

F. & G. Oil Co.'s No. 1 W. L. Foster was dry and abandoned at 2,503 feet.

Tom Green County

Williams and others' No. 1 A. Willeke was dry and abandoned at 800 feet.

Irion County

Kimbrough & Tuel's No. 1 Nutt was dry and abandoned at 1,420 feet. Wittmer Oil & Gas Properties' No. 1 Abe Meyers located 990 feet from south and east of Section 10, Block 17, H.&T.C. R.R. Survey, was dry and abandoned at 1,545 feet.

Reagan County

Big Lake Oil Co.'s No. 162 University was drilled to a total depth of 3,179 feet, topped the pay at 3,110 feet, plugged

(Continued on Page 239)

Young County May Have Deep Pool

Discovery in Moore County. Gas Well at Haskell. Disappointment in Foard. First Deep Pay in Bryson Pool

By L. E. Bredberg
Fort Worth Bureau, The Oil and Gas Journal

FORT WORTH, Tex., July 22.—Activities in the Panhandle and Wichita Falls district are running wide open, with many locations announced every week, and as many more completions being made, many good wells being completed in the various producing areas, and new discoveries and semiwildcats extending pools, and opening up other new ones.

One of the wildcats of the week's interest has showed up in the deep lime area of Young County, in the SE cor., Section 431, T.E.&L. Survey, 3½ miles north of the old Panhandle Refining Co.'s No. 1 Morrison in Section 465, which produced a while from a pay sand at 4,200 feet. This new discovery is the G. A. Horal's No. 1 Morrison, and topped the pay at 3,809 feet. The hole filled 1,200 feet with oil in 24 hours and filled to about 2,400 feet after standing longer. Intentions now are to give it a test, and the following week's report will carry this well in a definite state. But it now looks good for opening up a new pool from the deep pay, and the showing made will stimulate drilling in the immediate area. Young County is one of the most active counties in the Wichita Falls district, and every week new events create and hold considerable interest to the companies and operators active in this area. The wells are not phenomenal, but the gravity of the oil is high, and a small producer can mean considerable profit to its owner.

New Discovery in Panhandle

Far up in the Panhandle district, in Moore County, the Barnsdall Oil Corp. looked to have promises of a new discovery in its No. 1 Harrison which is located in the C NW NE, Section 5, Block M-2. The test had a 500,000-foot show of gas at 3,195 feet, but later struck 500 feet of salt water from 3,427-40 feet causing the company to shut it down. This is a wildcat test, and the showing of gas encountered will no doubt have a bearing on other tests being drilled around it, even if it does not come through with a producer itself. Few wildcats encountering such showings will be plugged to no avail, for practically all of them cause a reflux in drilling operations in the area around them, testing out the formations to see if producers cannot be brought in from the pay horizon which showed up in the first test. Elevation of the Barnsdall test is 3,554 feet.

Haskell County Gasser

Haskell County scored in a 16,000,000-foot gasser from a stray sand in the Evans and others' No. 1 Reynolds Cattle Co., located in the north part of the J. Fenner Survey, a quarter mile north of the Superior Oil Co.'s shallow producers from a 1,700-foot sand.

The gas sand was encountered from 1,460-78 feet and the well shut down at 1,483 feet, the gas not being shut in, but it no doubt will be bradenheaded and the well drilled deeper seeking the 1,700-foot pay sand from which the Superior's production is coming. One disadvantage in encountering such a quantity of gas in this area, is that it is so far distant from any gas company's trunk or gathering lines, and one well of this size would hardly merit the running of many miles of line to carry the production. In case other tests are drilled in the area, and they produce like amounts of gas, or possibly more, there is no doubt that some commercial gas producing company would run in a line to take the production and pipe it to nearby towns.

Disappointment in Foard

A rather disappointing event took place in Foard County this week when Bass & Dillard's test, 1½ miles northwest of the Shell Petroleum Corp.'s No. 1 Tarver, encountered granite wash from 2,585-2,627 feet but failed to produce. This test is 660 feet from the south and east lines of the NW Section 276, Block A, H.&T.C. Survey, and the passing up of the pay formation will probably cause the owners to abandon the test, which will help define this new pool to the northwest. The Shell discovery well is holding up in production around 140 bbls. daily. Other tests in this area will soon be at critical depths and will be closely watched to see which way the pool is to be extended, and how far. There is practically but two directions left, directly south and to the northeast, previous tests having been drilled in the other directions, defining the pool to the southwest, north and east.

The Lone Star Gas Co.'s No. 1 Storm in the SW Section 470, S.P.R.R. Survey, in the northern part of Eastland County, has an estimated 6,000,000 feet of gas from sand at 3,570-88 feet, with a light spraying of oil. This is southwest of the old Thomas-Gorz Pool, and can really be called a wildcat discovery causing an extension to the pool. Total depth of the well is 3,588 feet.

Bryson Pool

Petroleum Producers Co. and The Texas Company's No. 1 Shanafelt, located in the Isaac Hughson Survey in the Bryson Pool, Jack County, last week appeared to have opened a new deep pay when it passed up the regular Leidicker pay and encountered a deep one from 4,569-70 feet, where gas started showing up, and the hole filling with oil. The following day it flowed 46 bbls. and the next day 56 bbls. Four-inch casing is being run, and the well will be drilled in as soon as this job is completed.

This will be the first deep pay well in the Bryson Pool and the second one for Jack County, the first having been drilled by the Shell Petroleum Corp. to a total depth of 4,500 feet. This well is on the same trend 9 miles southeast, and the two wells can possibly be correlated, and the subsurface worked out to such an extent that considerable deeper drilling will be done between the two, and some shallow wells which are not doing so well now may be deepened in hopes of picking up this deeper pay. It at least gives hopes to the tests which miss the shallower pay, if the operators or companies feel like going on down with their tests. It is doubtful what the outcome of this deep discovery will cause, but it may develop into a profitable venture if the deep pay can be picked up in various parts of the county, or on this trend, and if the wells are large enough to prove worthy of such deep drilling.

Coleman County Most Active

Coleman County is one of the most active counties in the Ranger district, if not the most active. The Morris Pool, northeast of Coleman, no doubt leads in the county, and has been excessively active during the past few weeks, bringing in some of the best wells in the history of the county, and extending the pool considerably in different directions. The Continental-Cheney-Overall Pool is also an active spot in the county, some nice wells being produced in this area. The Haas area, 8 miles south of Coleman, chalked up a completion of 40 bbls. this week when J. R. Foster and others brought in their No. 3 Haas from an oil sand at 1,489 feet, total depth of the well being 1,499 feet.

The new Taylor-Link Pool, 3 miles northwest of Shields, is another active spot in the county with four wells drilling, and two producers on the pump. The Taylor-Link Co. has spudded its No. 1 Williamson which is a west offset to the discovery. Three-quarters of a mile northeast the Sherwood-Owens' No. 1 Vance is drilling. It is the next nearest test to the discovery.

ESTIMATED DAILY AVERAGE PRODUCTION NORTH TEXAS
Week Ended July 20

Panhandle district—	Prod.
Carson County	7,447
Hutchinson County	24,262
Gray County	56,808
Moore County	1,250
Potter County	0
Wheeler County	606
Total this week	90,373
Total last week	85,870
Increase	4,503
Wichita Falls district—	
Archer County	19,766
Clay County	658
Cooke County	6,098
Foard County	148
Jack County	3,240
Haskell County	110
Montague County	7,029
Throckmorton County	797
Wilbarger County	28,454
Young County	11,048
Wichita County	26,568
Total this week	103,916
Total last week	101,106
Increase	2,810
Ranger district—	
Brown County	7,560
Callahan County	4,175
Coleman County	6,100
Comanche County	1,180
Palo Pinto County	375
Eastland County	6,033
Shackelford County	11,025
Stephens County	6,831
Total this week	43,279
Total last week	42,900
Increase	379
Grand total this week	237,568
Grand total last week	229,876
Increase	7,692

WILDCAT OPERATIONS IN TEXAS PANHANDLE

Week Ending July 22

Company, well, farm, name, section and block—	Remarks—
CARSON COUNTY	
Delmar Oil Co.'s No. 4 Noel, 330 ft. from N line, 330 ft. from W line of W½ SE, Sec. 198, I.&G.N., Blk. 3	Drlg. 3,126 ft.
Empire G. & F. Co.'s No. 1 Deahl, 660 ft. from N line, 660 ft. from W line, Sec. 21, Blk. Y-2	Drlg. 2,705 ft; 5,000,000 ft. gas 2,427-2,705 ft.
Gulf Prod. Co.'s No. 1 Garner-B, 330 ft. N and W SE cor. SW, Sec. 106, Blk. 4, I.&G.N.R.R. Sur.	Drlg. 2,470 ft.
Gulf Prod. Co.'s No. 7 Noel, 330 ft. S and W NE cor. SW, Sec. 198, Blk. 3, I.&G.N. Sur.	Drlg. 2,535 ft.
Herragan Oil Co.'s No. 1 L. C. McConnell, 330 ft. N and W line W½ SW, Sec. 187, Blk. 3, I.&G.N. Sur.	Drlg. 1,420 ft.
Magnolia Pet. Co.'s No. 7 fee, 990 ft. from W line, 890 ft. from S line SE, Sec. 91, Blk. 4, I.&G.N. Sur.	Drlg. 555 ft.
McConnell O. & G. Co.'s No. 1 McConnell, 330 ft. from N line, 330 ft. from E line W½ NE, Sec. 65, Blk. 4, I.&G.N.R.R. Sur.	S.D. 2,960 ft.
Midwest Expl.n. Co.'s No. 2 Cooper, 990 ft. from S line and 330 ft. from W line W½ NW, Sec. 5, Blk. 9, I.&G.N. Sur.	Drlg. 2,840 ft.
Midwest Explin. Co.'s No. 3 Cooper, 990 ft. S and 330 ft. E NW cor. W½ NW, Sec. 5, Blk. 9, I.&G.N. R.R. Sur.	Drlg. 975 ft.
Ryan Oil Co.'s No. 3 Black, 990 ft. from S line, 330 ft. from E line NE Sec. 111, Blk. 4, I.&G.N.R.R. Sur.	Drlg. 2,340 ft.
Ryan Oil Co.'s No. 4 Black, 990 ft. from N line and 330 ft. from W line NE Sec. 111, Blk. 4, I.&G.N. Sur.	Drlg. 2,160 ft.
Skelly Oil Co.'s No. 15 Schafer, 330 ft. from S line and 330 ft. from W line NE, Sec. 198, Blk. 3, I.&G.N.	Drlg. 2,890 ft.
Stubblefield's et als' No. 1 Garner, 330 ft. from S and E lines SE, Sec. 104, Blk. 4	Drlg. 512 ft.
Timmis et als' No. 2 Garner, 330 ft. from N line and 330 ft. from E line SW SW, Sec. 113, Blk. 4, I.&G.N.	Set 8-in. csg. 2,232 ft.
Travis et als' No. 1 D. A. Harrel, C NE NE, Sec. 162 Blk. 7, I.&G.N. Sur.	250,000 ft. gas from 3,520-30 ft.; C.O. 3,780 ft.
CASTRO COUNTY	
Colorado O. & R. Co.'s No. 1 M. Slemmons, SW cor. Sec. 73, Blk. M-17, B.S.&F. Sur.	Rig blown down.
Mystery Oil Co.'s No. 1 J. I. Crum, SE cor. NE, Sec. 333, Blk. M-6, S.K.&K. Sur.	S.D. 510 ft. for csg.
CHILDRESS COUNTY	
C. L. Sloane et als' No. 1 B. P. Smith, Sur. 49, F. P. Knott lands	S.D. 4,486 ft.
COCHRAN COUNTY	
Continental Oil Co.'s No. 1 Slaughter-A, 330 ft. from W and 430 ft. from S lines, League 130, Carson County School land	Drlg. 3,735 ft.
COTTLE COUNTY	
Explin. Co.'s No. 1 Richards	S.D. 3,612 ft.
Explin. Co.'s No. 3 Matador Land & Cattle Co., C, Sec. 46, J. H. Stephens Sur.	S.D. 3,227 ft.
Sun Oil Co.'s No. 1 T. B. Yarborough, 485 ft. S and 2,460 ft. E NW cor. Sec. 551, Blk. H, W.&N.W. Sur.	Coring 4,295 ft.

(Continued on Page 197)

WICHITA COMPLETIONS

Week Ended July 20

Archer County

Brown-United Production Co.'s No. 5 Taylor had an oil show at 1,488-89 feet and an initial production of 60 bbls. oil and 10 bbls. water. Gwynn-Boyd & Archer Drilling Co.'s No. 2 Oil Investment Co. topped the pay at 1,588 feet, was drilled to a total depth of 1,592 feet and had an initial production of 90 bbls. Their No. 4 Thompson had an oil show at 1,583 feet, was drilled to a total depth of 1,592 feet and had an initial production of 175 bbls. Frank Hutchison's No. 1 fee was dry and abandoned at 1,462 feet. Johnson and others' No. 1 Matthews was dry and abandoned at 1,465 feet. Perkins & Cullum's No. 10 Wilson had an oil show at 1,230-60 feet and an initial production of 15 bbls. United Production & Petroleum Production Co.'s No. 1 Wilson topped the pay at 1,607½-13 feet, was drilled to a total depth of 1,614½ feet and had an initial production of 24 bbls. Bridwell Oil & Conoco Co.'s No. 3 Logan and others topped the pay at 1,137 feet, was drilled to a total depth of 1,151 feet and had an initial production of 12 bbls. Continental Oil Co.'s No. 2 Falls Co. Fee topped the pay at 1,097 ft., was drilled to a total depth of 1,104 feet and had an initial production of 4 bbls. Its No. 7 Richardson had an oil show at 1,122-30½ feet and had an initial production of 25 bbls. Estracado Oil Co.'s No. 4 Prideaux was dry and abandoned at 695 feet. Freeman's No. 6 Herring had an initial production of 20 bbls. at 1,435-38 feet. Humble Oil & Refining Co.'s & Fain McGaha Oil Corp.'s No. 10 Logan made 25 bbls. at 1,114-25 feet. Long's No. 1 Chan-

(Continued on Page 201)

[Assembly shop and riveting floor showing 25 ton crane, Houston plant]

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With modern plants of large capacity in both Dallas and Houston and with competent engineers familiar with the requirements of the oil industry, the Wyatt Metal & Boiler Works is keeping pace with oil industry progress. Your orders can be safely entrusted to Wyatt.

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WYATT METAL & BOILER WORKS

Pipe Line Construction News

LAYING SMALL LINE TO RAILROAD LOADING RACK

FORT WORTH, Tex., July 22.—The Emerald Oil Co. is laying a 2-inch line, 7 miles in length from its field in southeastern Garza County to a loading rack on the Santa Fe Railroad at Justiceburg. It is reported that the oil will be shipped in tank cars to the Cisco Refining Co. at Cisco, Tex. The Emerald company has four producers on the Boren and Reed leases, producing about 95 bbls. daily, and a pumping unit is being installed to pump the four wells. The oil well being of high gravity, and sweet makes the small producers more profitable and worth the cost of pumping, and laying of line to take care of the production. Other tests will be drilled in this area, and probably other production will help keep the small line busy running the production.

FIFTH LINE IN MUSKEGON

The United Petroleum Corp., of Detroit, is nearing completion of the fifth oil pipe line in the Muskegon, Mich., Field, with the laying of about a mile and a half of 4-inch from the pumping station on the Bear Lake Flats to producing leases in the Muskegon Township area, and about a quarter of a mile of 6-inch main from United States 31 to pumping station. The pumping station is located on the Albert Peters lease, NE SE, Section 12-10-17, Laketon Township.

The smaller lines of 4-inch pipe are being laid to the Albert Young and Ira R. Hallock leases of Charles W. Marsh and others, operators in Laketon and Muskegon Townships, and to the Fox farm in Section 11, Laketon Township, owned by William P. Dinan, and now being drilled by the Rock Oil Co.

Lentz & Miller, drilling contractors for Charles W. Marsh and others, for the Paragon Oil Co. and for the United Petroleum Corp., have constructed the new pipe line.

SECOND MOUNT HOLLY LINE

SHREVEPORT, La., July 20.—The second line to take oil from the Mount Holly district of Ouachita County, Arkansas, will be completed within the next three weeks, according to information from Camden. It will be about 12 miles of 4-inch built by Houston Oil Co., to the refinery at Cullendale, a suburb of Camden. The company has been contemplating the line for some time, but delayed action until the field assumed a more definite prospect, as The Texas Company's 4-inch extension from Louann was taking all the oil available, and the two Wilson wells of McDonald Brothers, coming in from a shallow sand, brought these plans to conclusion. Crews were put to work clearing right of way.

MOUNT PLEASANT FIELD LINE

The Pure Oil Co. is handling all the crude produced in the Pure Oil Pool, in Isabella and Midland Counties, Michigan, and it taxes the pipe line to handle it, but as soon as the storage, which is now under construction on the tank farm is completed, and an additional line run from the field a distance of several miles, the output can be handled in good shape. There is some talk of laying a pipe line from the Mount Pleasant Field to Sarina, Ontario, or to the Zilwaukee refinery of the Standard Oil Co. of Indiana, the plant being a short distance north of Saginaw.

HOUSTON PIPE LINE CO. GENERAL MANAGER DIES

HOUSTON, Tex., July 22.—Charles B. McKinney, general manager of the Houston Pipe Line Co. and a director of the Houston Natural Gas Co., died unexpectedly at his home here July 16. Mr. McKinney had been with these companies five years and was prominent in other Houston affairs.

Mr. McKinney was a pioneer in the gas business in the South, having been connected with this industry since 1908 when he became associated with the Galveston Gas Co. After four years at Galveston he accepted a position with the gas company at Biloxi, Miss., and two years later he became general manager of the North Texas Gas Co. at Denison, following which he was president of the Municipal Gas Co. at Dallas.

C. B. McKinney

CALIFORNIA LINE PERMIT

HANFORD, Calif., July 20.—The Kings County Board of Supervisors has granted a permit to Southern California Gas Co. to lay a 6-inch welded high pressure main from its plant here to Tulare County line, 9 miles distant, by way of Grangeville Boulevard. The gas company is one of the several companies seeking a franchise in Central California for the operation of a natural gas system to be fed by the Kettleman Hills Field.

EXTENSION AT WINDSOR

CHATHAM, Ontario, July 20.—The Windsor Gas Co., a subsidiary of the Union Natural Gas Co., supplying the Canadian border cities, has commenced construction of an auxiliary plant to manfacture astificial gas from fuel oil. This plant is located close to the company's regulator station and Hortonspheres. A gas holder of 1,000,000 feet capacity is also being constructed. The outlay involved is approximately $1,000,000.

CONSTRUCTING WAREHOUSE

HOUSTON, Tex., July 20.—The Texas Company the past week started construction of a wharf and warehouse at its new field in southwestern Orange County, where an active program of development will be carried on. Because of the marshes, supplies previously have been barged in only as needed.

PRODUCTION OF STEEL CONTINUING ITS PACE

By B. E. V. Luty

PITTSBURGH, Pa., July 22.—The steel industry continues its remarkably strong pace of production, remarkable in two ways, in its having been so high for a year past and particularly since January 1, and in its having practically no seasonal decrease. Regularly July has been a low month in steel production, last year being an exception in having June as the low month, while this year there is no material decrease. Production is off a trifle, having declined a few per cent since May, which showed the record high rate, but the decrease is almost nothing compared with the usual seasonal decrease. Such little decrease as there has been may be due largely or wholly to failure of open-hearth furnaces after five months or more of hard driving.

In the volume of steel buying, simply considering the total, there is no material decrease this month from June, and perhaps an increase, as some mills definitely report heavier bookings thus far this month than in the same month of June. However, there was quite a decrease in buying from May to June. The pace of buying is decidedly slower than in March and April.

Some of the automobile makers have picked up a little in their steel buying, those that are getting out new models and expect to be in quantity production on them next month. Ford buying has increased somewhat. As to the state of demand for Ford cars, there is ample room for increased production, but the rate is already high and there is difficulty in increasing it. The automobile industry can have only a little picking up at best, it being the regular thing for second half production to run more than 15 per cent under the first half production, and when first half production was so phenomenally large there is all the more room for a decrease. During the first half of the year the automobile industry may be estimated as having absorbed nearly 25 per cent, say 23 per cent, of all the steel made. If there were the same steel production in the second half the proportion would probably run under 20 per cent, but there is the same case with total steel production, that regularly it runs lighter in the second half of the year.

The Steel corporation's report of unfilled obligations at the end of June, 4,256,910 tons, can hardly be considered unfavorable, but it was not nearly as favorable as the May report.

Finished steel prices continue to show a little slipping here and there, though in relatively minor lines. Galvanized sheets and wire nails showed the first slipping, a few weeks ago, there being more shading and the top prices in the market ranges practically disappearing. Then cold rolled strip became subject to some shading, with hot rolled strips not overly firm. Now there is a little yielding in black sheets. Last February mills made a formal advance from 2.85 cents to 2.95 cents, and while 2.95 cents never became the universal market it was held by some mills. In the past week the last effort to obtain 2.95 cents seems to have disappeared and the market is now quotable at 2.85 cents flat instead of at a range of 2.85 cents to 2.95 cents. That is 24 gauge base. Tin mill black, which is based on 28 gauge, has slipped, being now quotable at 2.90 cents to 3 cents, against 3 cents formerly quotable.

Nothing new of particular interest has developed in the tubular goods trade. Demand is of much the same proportions as in recent weeks. Operations continue at about 55 per cent for pipe mills and 70 per cent for seamless tube mills, making about 60 per cent for the whole tubular goods industry.

CITIES SERVICE EXTENSION

Additional details are supplied concerning the Cities Service Gas Co.'s new natural gas line which will extend the company's system to several cities in northeastern Kansas and as far north as Falls City, Neb.

The line will be built north from Atchison, Kan., in a northwesterly direction to Horton, Kan., and then practically straight north to Hiawatha and Falls City, Neb. The company also proposed to build a line to Sabetha, Seneca and Marysville, Kan., to join the Horton-Hiawatha-Falls City line just north of Hiawatha.

The present pipe line of the company in that section extends to Atchison through Leavenworth from Ottawa, Kan., where it joins the company's main network of pipe line systems from all the major gas fields in the Southwest, including the large line extending up through Ottawa from the Texas Panhandle.

EAST CHICAGO PLANT LINE

Grading for the tank sites of the Empire companies' East Chicago refinery virtually is completed and construction of the fire walls is underway. Twenty-four 2,500-bbl. tanks, five 10,000-bbl. tanks, and two 80,000-bbl. tanks have been erected and tested for leaks. The five remaining 80,000-bbl. tanks are nearing completion.

Foundations for the office, garage and change house are in and construction of the buildings proper will be rushed to completion. Excavation now is being made for foundations of the laboratory and warehouse structures.

Activities on the topping area include the final testing of the 10 chambers to be used there. These consist of six large chambers and four dephlegmator towers now ready for shipment from the foundry to the refinery site.

Right of way negotiations for the main water line are underway. This line will extend from Lake Michigan to the refinery. Construction of the line will follow the completion of right of way contracts.

SOUTHWEST TEXAS LINES

The Gulf Pipe Line Co. (W. F. Morgan interests) 6-inch pipe line from Refugio Field to Harbor Island is one-third completed. Magnolia Gas Co.'s pipe line from Bruni Field to San Antonio is a little more than one-third completed. Work has started on United Gas Co.'s extension to Yorktown.

LULING-WEST COLUMBIA LINE

SAN ANTONIO, Tex., July 22.—Humble Pipe Line Co. is installing two pumping units along its 127-mile 8-inch pipe line running from Luling to West Columbia, Tex. This will increase daily capacity of line to 20,000 bbls. from 12,000.

DISCUSS KENTUCKY LINE

A conference of oil men and representatives of refineries of Louisville was held at Henderson, Ky., to discuss construction of a pipe line from the oil wells in and around Sebree, Webster County, and Niagara, Henderson County, to Henderson, to connect with the Illinois Central Railroad, where the oil can be loaded in tanks cars. The pipe line from Niagara to Green River is almost complete.

SEMINOLE HOIST
"HEAVY DUTY"
2 SPEEDS FORWARD—2 SPEEDS REVERSE
This hoist when used with the McCormick Deering Tractor equipped with Trackson Full Crawlers easily adapts itself to all classes of heavy duty hoist work.
With its load capacity of 25,000 lbs. on a single line, the SEMINOLE fills many requirements in the oil fields and on pipe line construction.
SEMINOLE PIPE HANDLING BOOM
This Boom and Boom Hoist are entirely supported by the crawler frame and axles.
THIS NEW FEATURE in a Tractor Boom relieves the tractor motor of all stresses which it is subjected to from other types of boom construction. The unit handles easily 4,000 lbs. without stiff leg or 25,000 lbs. with stiff leg.

Automotive Division

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OKLAHOMA FIELDS

(Continued from Page 66)

The crew is pulling casing to abandon. This immediate area is now practically condemned for Wilcox sand production. Warner-Quinlan's No. 1 Light had a hole full of water from the Wilcox sand at 4,332-35 feet.

Drilling for Cromwell Sand

Little River Pool in the southeast extension is being drilled for the Cromwell sand in Sections 13, 14, 22, 23, 24 and 34, Township 7-6, Seminole County. This sand produces oil and gas and either is desirable if found in paying quantities. Mid-Continent Petroleum Corp.'s No. 10 Smith, NE cor. NW SE, Section 5-7-7, Seminole County, made 1,565 bbls. after a 20-quart shot in the Wilcox sand at 4,191-4,221 feet, and then later quit flowing.

E. L. Harris and others' No. 1 Harjoche, SE cor. NE SE Section 8-6-6, Seminole County, is a rig up. This wildcat test is some distance from production and will prove up a large area.

Shell Buys Storage Oil

Shell Petroleum Corp. has purchased 100,000 bbls. of crude oil in tanks from the Mid-Continent Petroleum Corp. The oil is located in Sections 34-10-6 and 3-8-6, Seminole County. The same company has purchased 325,000 bbls. of crude oil from the Turman Oil Co. stored in five 55,000-bbl. tanks in Section 34-9-6, and one 80,000-bbl. tank in Section 3-8-6, Seminole County.

Good Well in Stephens County

The southwestern part of Oklahoma is in the spotlight this week by the Wirt Franklin Oil Co.'s No. 1 Spain, SW cor. SE NW, Section 9-2s-6w, Stephens County, coring a sand at 3,226-38 feet, after cementing 8-inch casing at 3,224 feet. The plugs were drilled and the swab run and it made 100 bbls. of oil the first 2 hours. A 16-hour gauge showed 492 bbls. and a 24-hour gauge 616 bbls. This test is producing from a deeper level than any other well in the area. Several other tests have been drilled past this horizon in the township, but have not found production in commercial quantities.

Amerada Petroleum Corp.'s No. 1 Delana, in the SE cor. NW NE Section 31-4s-9w, Cotton County, has reached a total depth of 3,212 feet in lime and shale, which may be the base of the big lime. The owners are making arrangements to land the 8-inch casing, after underreaming to this depth. The hole will be in good shape to carry deeper. The company plans to make an extremely deep test.

J. A. Porter and others' No. 1 Paddock, in the NE cor. NW NE Section 35-5s-7w, Jefferson County, is rigging up to drill a 3,200-foot test. This wildcat is favorably located on a core-drilled block.

Hazlett and others' No. 1 in the NE cor. SE NE Section 3-10-11, Okfuskee County, has a 5-bbl. showing of oil that tests 54 gravity. The showing was encountered in sand at 800 to 820 feet.

Big Dutcher Sand Wells

Two wells that were recently drilled into the Dutcher sand north of Bristow, in Creek County, have been drilled deeper in the sand and both have greatly increased their production. Carter Oil Co.'s No. 8 Durant, SW cor. SE NE NE, Section 18-16-9, was completed in the sand at 3,015-17 feet, where it made 450 bbls. It was deepened to 3,020 feet and it made 2,183 bbls. Selby Oil & Gas Co.'s No. 5 Durant, NE cor. SE SE Section 18-16-9, Creek County, was also completed in the Dutcher sand at 3,022-28 feet, where it made 850 bbls. It was deepened to a total depth of 3,029 feet and increased its production to 1,810 bbls.

St. Louis-Asher Runs

The average daily pipe line runs from the St. Louis and Asher Fields for the past week are as follows:

Company—	Bbls.
Consolidated	3,602
Cosden	963
Gulf	4,748
Independent	2,210
Magnolia	27,141
Oklahoma	1,103
Prairie	28,088
Shell	3,107
Texas	470
Tidal	4,163
Sinclair	22,242
Total	97,837

Seminole Runs

The daily average pipe line runs from the Seminole Field for the past week were as follows:

Company—	Bbls.
Barnsdall	5,398
Champlin	4,426
Con.inental	1,434
Consolidated	270
Cosden	4,947
Empire	8,873
Gulf	36,816
Independent	none
Magnolia	25,142
Oklahoma	44,073
Prairie	60,761
Producers & Refiners	2,075
Pure	5,882
Shaffer	4,076
Shell	9,218
Sinclair	36,318
Texas	16,435
Tidal	21,218
White Oak	2,571
Total	289,933
Tank cars	9,506
Grand total	299,439

The Vacuum Oil Co. is surveying a new route for a 4-inch pipe line from its recently acquired Lewis Production Co.'s properties on the east side of the Burbank Pool, in Osage County. The new pipe line will be laid to the Carter Oil Co.'s loading rack in Section 9-26-6, Osage County. The Vacuum Oil Co. will later build its own loading rack and ship all of its production in tank cars to Houston, Tex.

Cotton County

Stewart & Wiley's No. 1 Watkins, NW cor. NE, Section 14-2s-11w, is drilling at 2,000 feet. Leath & Denver & Wichita Falls Pipe Line Co.'s No. 1 Hundley, SE cor. SW, Section 24-2s-9w, has been abandoned at 2,503 feet.

Creek County

Phillips Petroleum Co.'s No. 1 Koch, NE cor. Section 20-19-9, made 25 bbls. in sand at 2,260-85 feet. Glen Evans and others' No. 1 Oglesby, SW cor. Section 30-19-9, is dry and abandoned at 2,595 feet. Magnolia Petroleum Co.'s No. 1 Scott, NW cor. SW SE, Section 9-18-7, has been completed for 2 bbls. in sand at 2,640-2,720 feet. Silurian Oil Co.'s No. 3-A W. Starr, NE cor. Section 17-18-7, was completed for 20 bbls. in sand at 2,390-2,547 feet.

Central Commercial Oil Co.'s No. 2 J. Hay, NW cor. SW, Section 10-17-10, was completed for 1,000,000 feet of gas in sand at 1,999-2,009 feet. Love & Meyers and others' No. 1 Carter, NW cor. NE, Section 15-16-9, is a dry hole at 2,993 feet. Franchot Oil Co. and Mid-Continent Petroleum Corp.'s No. 4 Garrett, NE cor. SW, Section 16-16-10, has been abandoned at 2,930 feet. C. O. Buckles and others' No. 1 McNack, SE cor. NE NE, Section 1-14-10, has been abandoned at 3,140 feet.

Okfuskee County

Superior Oil Co. is building the rig for No. 1 Carolina, SE cor. Section 6-11-7. W. L. Umbrun and others' No. 2 Robinson, SW cor. Section 1-10-11, is dry and abandoned at 1,658 feet. Umburn & Fleming's No. 1 Robinson, NW cor. NE SW, Section 12-10-11, made a 50-bbl. well in sand at 1,562-85 feet.

Oklahoma County

Cromwell, Indian Territory Illuminating Oil Co. and others made location for No. 1 Trosper, SE cor. SW NE, Section 13-11-3w, Oklahoma City Field. Indian Territory Illuminating Oil Co. has the cellar dug for No. 1 Thomas-Consolidated, SW cor. SE SE, Section 13-11-3w. No. 2 Thomas-Consolidated, SE cor. Section 13-11-3w, is also a cellar The cellar has been dug for No. 3 Trosper, SE cor. SW, Section 13-11-3w. Indian Territory Illuminating Oil Co. and Foster Petroleum Co.'s cellar is dug for No 1 Wheeler, SW cor. NW SE, Section 13-11-3w. No. 2 Wheeler, SE cor. NW SE, Section 13-11-3w, is also a cellar. No. 1 Verne, NW cor. SW SE, Section 13-11-3w, is a cellar. The cellar has been dug for No. 2 Verne, NE cor. SW SE, Section 13-11-3w.

Tom Slick Oil Co. has the cellar dug for No. 1 Glidden, SW cor. SE Section 13-11-3w. No. 2 Glidden, SE cor. SW SE, Section 13-11-3w, is also a cellar. No. 1 Martin, C NW NW, Section 13-13-1w, is spudding. Mid-Kansas Oil & Gas Co. has the cellar dug for No. 3 Fortson, NW cor. NE, Section 24-11-3w. No. 4 Fortson, NE cor. NW NE, Section 24-11-3w, is also a cellar. Indian Territory Illuminating Oil Co. has dug the cellar for No. 1 Fortson-Consolidated, NW cor. NE NE, Section 24-11-3w. Coline Oil Co.'s No. 4 Olds, NE cor. NW, Section 24-11-3w, is a cellar. Location has been made for No. 1 Warren, SW cor. Section 18-11-2w. Indian Territory Illuminating Oil Co. and others' No. 1 Farley, NW cor. Section 19-11-2w, is a cellar. Shell Petroleum Corp. is moving the rig in for No. 3 Petty, NE cor. Section 30-11-2w.

Pottawatomie County

McCulloch and others made location for No. 1 Luckett, NE cor. NW, Section 28-10-5. Gypsy Oil Co. has the rig on the ground for No. 4 Green, NE cor. NW SE, Section 17-7-4. Magnolia Petroleum Co. made location for No. 3 Hubanks, NW cor. NE NW, Section 17-7-4, Pearson-St. Louis area. The Prairie Oil & Gas Co. is building the rig for No. 2 Rice, SE cor. SW NE, Section 17-7-4. Magnolia Petroleum Co. made location for No. 1 Lynn, NW cor. NE NE, Section 21-7-4. No. 1 Hilton, NW cor. Section 22-7-4, is a location.

Shell Petroleum Corp. has the rig on the ground for No. 1 Hines, NE cor. SW NW, Section 22-7-4. Simms Oil Co. made location for No. 1 Asher Townsite, center of Block 30, NW cor. NE NE NW, Section 19-6-4. Gypsy Oil Co. has the rig on the ground for No. 1 Blackbird, NW cor. SE NE NW, Section 19-6-4. The Prairie Oil & Gas Co. and T. B. Slick's No. 6 Latimer, NE cor. SW SE, Section 19-6-4, is a rig under construction.

Independent Oil & Gas Co.'s No. 2 Barrows, NW cor. Section 1-7-4, St. Louis Pool, made 800 bbls. from Hunton lime at 3,930 feet, total depth 4,088 feet, in Sylvan shale. Magnolia Petroleum Co.'s No. 2 Latimer, SW cor. NW, Section 17-7-4, was completed for 600 bbls. in Simpson sand at 4,175-83 feet. Gypsy Oil Co.'s No. 1 Green, NW cor. SE, Section 17-7-4, flowed 475 bbls. from Simpson sand at 4,123-46 feet.

Simms Oil Co.'s No. 1 Hatley, SW cor. Section 17-6-4, Asher Pool, is dry and abandoned at 4,123 feet in Wilcox sand. Simms Oil Co. and Tom Slick Oil Co.'s No. 1 Alexander, SE cor. Section 18-6-4, is dry and abandoned at 4,115 feet. Independent Oil & Gas Co. and Twin State Oil Co.'s No. 1 Gardiner, NE cor. SW SE, Section 19-6-4, swabbed 254 bbls. from Viola lime at 3,748-3,840 feet. Independent Oil & Gas Co.'s No. 1 Lynn, SE cor. NW NW, Section 20-6-4, is dry and abandoned at 3,975 feet. The Prairie Oil & Gas Co.'s No. 2 Bebee, NE cor. SE SE, Section 19-6-4, has been abandoned at 3,860 feet.

Mid-Continent Petroleum Corp.'s No. 1 Causey, NW cor. SW SW, Section 20-6-4 has been abandoned at 2,821 feet. Tom Slick Oil Co.'s No. 3 Bledsoe N,W cor. SW, Section 20-6-4, is dry and abandoned at 4,108 feet. No. 4 Bledsoe, NE cor. SW NW, Section 20-6-4, is a dry hole at 3,940 feet. No. 3 Welden, SW cor. SE NW NW, Section 20-6-4, made 45 bbls. in Viola lime at 3,710-65 feet. Sinclair Oil & Gas Co.'s No. 4 I. Davis "A," SE cor. NW SE, Section 7-6-8, Sasakwa Pool, has been completed for 1,360 bbls. in Wilcox sand at 4,192-4,207 feet.

Seminole County

Gypsy Oil Co. made location for No. 1 Nevins, SE cor. Section 31-10-6, Earlsboro area. Amerada Petroleum Corp. made location for No. 1 Marks, SW cor. NE, Section 32-10-6. Carter Oil Co. is building the rig for No. 1 C. Wisner, SW cor. NE, Section 16-9-6. Amerada Petroleum Corp. has the cellar dug for No. 2 Sullivan, NW cor. SW NW, Section 17-9-6. Burke-Greis Oil Co. moved the rig in for No. 1 Templeton, NW cor. SW SW, Section 17-9-6. Barnsdall Oil Co. has the rig on the ground for No. 3 Noble, SE cor. NW SW, Section 18-9-6. No. 4 Noble, NW cor. SE SW, Section 18-9-6, is also a rig on the ground.

Gypsy Oil Co. and Devonian Oil Co.'s No. 6 S. Payne, SE cor. NE SE, Section 18-9-6, is a rig being built. Magnolia Petroleum Co. has the cellar dug for No. 10 A. Anderson, SE cor. NE SW, Section 18-9-6. No. 11 A. Anderson, SW cor. NE SW, Section 18-9-6, is also a cellar. Amerada Petroleum Corp. and Gypsy Oil Co. made location for No. 1 Coner, SW cor. NW SW, Section 20-7-6, Little River Pool area. Magnolia Petroleum Co.'s No. 6 Reed, SE cor. NE, Section 22-7-6, is setting surface pipe. Pure Oil Co. has dug the cellar for No. 11 Cotcha, NE cor. Section 23-7-6, Little River Pool.

Shell Petroleum Corp. made location for No. 5 Hotulke, SW cor. NE NW, Section 23-7-6. The Texas Company has dug the cellar for No. 7 D. Hotulke, NE cor. SW NW, Section 23-7-6. Condinental Oil Co. and Shaffer Oil & Refining Co. made location for No. 4 Harris, SW cor. NW SW, Section 4-7-7. Gypsy Oil Co.'s No. 6 Payne, NE cor. SE NE, Section 5-7-7, is a rig going up. Sinclair Oil & Gas Co. made location for No. 5 Phillips, SE cor. NE SE, Section 5-7-7. Mid-Continent Petroleum Corp. made location for No. 1 Yarhola, NE cor. SE NE, Section 8-7-7.

The Prairie Oil & Gas Co. made location for No. 3 Stubbs, SW cor. NE, Section 18-9-7. The rig is being built for No. 2 Calkins, SW cor. SW NW, Section 17-9-6. Producers & Refiners Corp. is moving the rig in for No. 1 Davis, SW cor. NE, Section 13-7-6. The Prairie Oil & Gas Co. and T. B. Slick's rig is being built for No. 1 Betsy, NW cor. SW, Section 36-6-6. Signal Oil Co.'s No. 2 Bond, NW cor. SW NE, Section 13-6-7, Sasakwa Pool, is a cellar. No. 3 Bond, NE cor. SW NE, Section 13-6-7, is also a cellar. Location has been made for No. 4 Bond, SE cor. SW NE, Section 13-6-7.

Pure Oil Co. is erecting the rig for No. 1 Bates, SW cor. NW NE, Section 13-6-7. No. 2 Bates, SW cor. SE NE, Section 13-6-7, is a cellar. Kingwood Oil Co. made location for No. 1 Price, SE cor. NW, Section 13-6-7. Indian Territory Illuminating Oil Co. has dug the cellar for No. 1 Tiger, NE cor. SE NW, Section 13-6-7. No. 1 D. F. Fleet, NE cor. SW, Section 13-6-7, is a location. No. 2 Fleet, NE cor. NW SE, Section 13-6-7, is also a location. Blackwell Oil & Gas Co. made location for No. 1 Hall, SW cor. Section 5-6-8. Carter Oil Co. has the cellar dug for No. 1 Aldridge, SE cor. SW NE, Section 7-6-8. Location was made for No. 2 Aldridge, SW cor. NE, Section 7-6-8.

Carter Oil Co. has dug the cellar for No. 2 G. Davis, SE cor. SW, Section 7-6-8. Indian Territory Illuminating Oil Co. made location for No. 2 Holatka, SW cor. SE SE, Section 7-6-8. Location was made for No. 3 Holatka, NE cor. SE SE, Section 7-6-8. Shell Petroleum Corp. staked location for No. 3 Holatka, SE cor. NE SE, Section 7-6-8. No. 4 Holatka, NE cor. SE, Section 7-6-8, is a location.

Sinclair Oil & Gas Co. has the rig on the ground for No. 8 I. Davis "A," SE cor. SW SE, Section 7-6-8. Independent Oil & Gas Co. and Margay Oil Co. made location for No. 1 Holatka, SW cor. SE NE, Section 7-6-8. Indian Territory Illuminating Oil Co. made location for No. 1 A. J. Davis, SW cor. NW SW, Section 8-6-8. Location has been made for No. 1 Patten, NW cor. NE NE, Section 18-6-8. Carter Oil Co. and Burke-Greis' No. 2 Phillips, NE cor. NW, Section 18-6-8, is a rig going up.

Sinclair Oil & Gas Co. staked location for No. 3 Jefferson, SW cor. NE SE, Section 23-5-7. Location was also made for No. 4 Jefferson, SE cor. NW SE, Section 23-5-7. No. 5 Jefferson, NW cor. NE SE, Section 23-5-7, is also a location. Gypsy Oil Co. moved the rig in for No. 2 Peters, NE cor. SE NE, Section 23-5-7. The rig is also on the ground for No. 3 Peters, SW cor. SE NE, Section 23-5-7. Sinclair Oil & Gas Co. made location for No. 2 Joanna, SW cor. NW, Section 24-5-7. No. 3 Joanna, NW cor. SW NW, Section 24-5-7, is also a location.

McCulloch and others' No. 1 Hollis, SE cor. NW, Section 16-10-6, is dry and abandoned at 4,618 feet. Empire Oil & Refining Co. and Mid-Continent Oil Co.'s No. 3 Anderson, NW cor. SE SW, Section 13-9-5, Earlsboro Pool, has been abandoned at 4,206 feet. J. S. Cosden's No. 3 Anderson, SE cor. NW SW, Section 13-9-5, flowed 1,825 bbls. in Wil-

cox sand at 4,219-25 feet. Magnolia Petroleum Co.'s No. 4 Gillim, SW cor. NE SW, Section 13-9-5, made 700 bbls. in Wilcox sand at 4,211-17 feet. No. 2 A. Anderson, SE cor. SW NE, Section 18-9-6, topped the Wilcox sand at 4,359 feet, drilled to 4,370 feet and made 6,411 bbls.

Sinclair Oil & Gas Co.'s No. 1 D. Coody, NW cor. NE SW, Section 17-9-7, East Seminole Pool, flowed 525 bbls. from sand at 3,521-28 feet. Gypsy Oil Co.'s No. 1 Harjo, NW cor. SE, Section 18-9-7, made 350 bbls. in Wilcox sand at 4,247-60 feet. Magnolia Petroleum Co.'s No. 3 fee, SE cor. NW NE, Section 11-8-5, Carr City Pool, was completed for 666 bbls. in Wilcox sand at 4,301-04 feet. Harris and others' No. 1 Miller, NW cor. NE, Section 8-8-8, is dry and abandoned at 4,098 feet.

Gypsy Oil Co.'s No. 15 Cotcha, NE cor. SW SW, Section 23-7-6, Little River Pool, made 25,000,000 feet of gas in Gilcrease sand at 3,108 feet. No. 16 Cotcha, SE cor. NW SW, Section 23-7-6, has been shut in for 32,000,000 feet of gas in sand at 3,127 feet. Pure Oil Co.'s No. 4 Brinson, NE cor. NW SW, Section 24-7-6, has been completed for 51,000,000 feet of gas in sand at 3,145-55 feet after plugging back from 4,365 feet in Wilcox sand. Empire Oil & Refining Co.'s No. 5 Cotcha, SE cor. NE, Section 27-7-6, made 101 bbls. in Gilcrease sand at 3,099-3,115 feet.

Mid-Continent Petroleum Corp.'s No. 8 Smith, SE cor. SW NE, Section 5-7-7, flowed 5,045 bbls. in Wilcox sand at 4,239-48 feet. Sinclair Oil & Gas Co.'s No. 1 Phillips, NW cor. NE SE, Section 5-7-7, made 3,810 bbls. in Wilcox sand at 4,403-13 feet. The Prairie Oil & Gas Co. and T. B. Slick's No. 1 Carr, NW cor. NE NW, Section 9-7-7, was completed for 875 bbls. in Wilcox sand at 4,347-55 feet. Sinclair Oil & Gas Co.'s No. 3 I. Davis "A," SW cor. SE, Section 7-6-8, Sasakwa Pool, flowed 2,952 bbls. from Wilcox sand at 4,187-4,200 feet.

Indian Territory Illuminating Oil Co. and others' No. 1 Factor, SW cor. NE SE, Section 3-5-7, is dry and abandoned at 4,778 feet. Sinclair Oil & Gas Co.'s No. 2 Jefferson, NE cor. SE, Section 23-5-7, swabbed 622 bbls. from Wilcox sand at 4,186-93 feet. The Texas Company's No. 10 Lucy, NE cor. SE SE, Section 18-5-8, made 607 bbls. from Cromwell sand at 2,520-98 feet. The Prairie Oil & Gas Co.'s No. 1 Patten, NW cor. NE, Section 18-6-8, flowed 3,220 bbls. from Wilcox sand at 4,098-4,106 feet.

Production of St. Louis Pool

Production of St. Louis and Asher Pools by companies and leases for July 17 follows:

St. Louis Pool

Company and farm—	S.T.R.	Wells	Prod.
Atlantic-Independent:			
Burke	16-7-4	1	480
Barnsdall:			
Stahl	30-7-5	3	801
Blackwell-Omar:			
Cherry	25-7-4	3	665
Carter:			
Akin	2-7-4	1	0
Darby:			
Youngblood	16-7-4	1	302
Nixon	9-7-4	1	0
Empire:			
Beths	17-7-4	1	175
Gypsy:			
Bruno	25-7-4	4	67
Collins	25-7-4	4	547
Dodson	26-7-4	4	137
Green	17-7-4	2	797
LeClair	23-7-4	4	1,910
Roseman	26-7-4	4	545
Stahl	30-7-5	8	585
Home Gas:			
Town Lot	14-7-4	1	281
Houston:			
Wyatt	17-7-4	1	462
Independent:			
Borrow	1-7-4	2	1,219
Blandin	30-7-5	5	755
Youts	19-7-5	8	6,550
Independent-Darby:			
Pappen	16-7-4	1	854
Independent-Westland:			
Rhodd	16-7-4	3	1,683
Inter-Ocean:			
McGee	23-7-4	6	300
I. T. I. O.:			
Shobe	35-8-4	1	358
Irwin-Martin:			
Kelly	2-7-4	2	1,505
Magnolia:			
Banta	14-7-4	3	325
Brandenburg	18-7-5	5	1,557
Caudle	13-7-4	1	70
Cherry-A	26-7-4	5	808
Cherry-B	26-7-4	3	217
G. W. Fyke A	26-7-5	1	444
G. W. Fyke B	20-7-5	2	388
Tull Fyke B	20-7-5	2	525
Tull Fyke D	20-7-5	2	288

RECAPITULATION SHEET JULY 17, 1929

Company	Little River	Carr	Maud	Mission	Bowlegs	Earlsboro	Seminole	East Seminole	Searight	Total
Amerada	885	....	2,570	970	770	1,239	909	....	330	7,673
Atlantic	....	....	....	....	767	110	422	....	....	1,299
Barnsdall	1,329	2,064	....	....	315	6,012	1,048	20	27	10,816
Blackwell	1,980	....	....	....	....	....	....	....	....	1,980
Bryan-Emery & Carter	13	....	....	....	....	....	....	....	....	13
Burke-Greis	....	....	....	....	....	1,948	....	....	....	1,948
Carter	9,097	2,400	....	1,685	3,409	3,272	6,515	....	4,619	30,997
Champlin	825	....	....	....	....	....	....	....	....	825
Continental	1,520	....	55	1,088	....	515	....	2,173	....	5,351
Cosden & Co.	....	....	....	....	....	2,835	....	....	....	2,835
Devonian	....	....	....	....	....	....	....	15	....	15
Darby	....	....	7	65	....	....	....	....	....	72
Dixie	....	....	....	....	40	....	....	....	....	40
Empire	630	4,760	800	....	438	1,467	261	....	....	8,356
Gypsy	9,386	1,272	839	10,748	2,495	11,077	2,852	322	1,020	40,011
Independent	6,022	....	225	2,350	....	1,580	1,977	....	....	12,154
I. T. I. O.	2,691	43	102	....	7,597	....	2,243	....	....	12,676
King.-Shell	....	....	....	....	....	....	396	....	....	396
Laurel	....	....	280	....	....	....	....	....	....	280
Magnolia	993	993	333	....	1,761	21,917	167	10	843	27,017
McCullough	1	....	....	....	98	....	....	....	....	99
McMahon	....	....	....	805	....	....	....	....	....	805
Mid-Continent	13,510	....	50	200	413	3,215	595	....	1,605	19,589
Mid-Kansas	....	....	....	....	....	30	....	....	....	30
Minnehoma	....	....	....	664	78	....	....	....	....	242
Papoose	....	....	....	....	....	....	....	....	470	470
Phillips	....	....	327	....	....	430	90	....	....	847
Pine	1,715	....	378	702	....	....	....	....	14	2,809
Pine-Phillips	150	....	....	....	....	....	....	....	....	150
Prairie	6,969	1,955	175	2,425	4,627	10,020	4,711	250	53	31,185
Prairie-Slick	1,645	....	....	15	....	....	....	....	....	1,660
Pure	4,301	....	1,632	....	4,911	....	5,346	....	795	16,986
Reiter-Foster	492	....	....	....	....	....	....	....	....	492
Shaffer	180	....	....	1,212	455	80	....	15	....	1,942
Shell	1,851	....	....	....	28	1,207	243	....	224	3,553
Shell-Marland	....	....	....	1,262	....	....	....	....	....	1,262
Shell-Papoose	....	....	....	1,235	....	....	....	....	....	1,235
Sinclair	4,579	1,076	975	1,130	4,428	2,867	2,297	2,579	1,405	21,336
Skelly	1,649	....	242	....	....	2,269	....	....	....	4,160
Skelly-Atlantic	....	....	....	....	....	1,648	....	....	....	1,649
Snowden-McSweeney	200	....	....	....	....	....	....	....	....	200
Superior	3	....	....	....	....	2,242	136	....	....	2,381
Texas	1,154	....	275	....	750	1,095	70	....	17	3,361
Texas-Indep.	1,692	....	....	....	....	....	....	....	....	1,692
Tidal	400	....	280	2,245	1,180	3,095	1,740	....	....	8,940
Turman	....	....	....	....	....	....	1,328	....	....	1,328
Twin State	65	....	135	2,645	....	75	....	....	125	3,045
Wilcox	....	....	1,830	....	....	....	....	....	191	2,021
Total prod.	75,927	14,563	11,511	31,446	34,560	80,247	33,346	5,384	11,738	298,722
Total wells	348	51	122	115	300	307	273	16	81	1,613

Company, farm—	Location	Wells	Prod.
Hembree	19-7-5	4	528
Latimer	17-7-4	2	112
Richardson	15-7-4	1	119
J. M. Robbins	15-7-4	4	241
Pearl Robbins	15-7-4	1	112
Mary Wilborn	25-7-4	2	242
S. A. Wilborn	25-7-4	5	786
Charles Youts	20-7-5	5	468
C. A. Youts	19-7-5	4	504
E. E. Youts	20-7-5	7	3,928
Magnolia-Pierce:			
Hughbanks	17-7-4	1	1,380
McCullough-Black.:			
Bruno	25-7-4	5	930
McCullough-Mid-Continent:			
Smith	25-7-4	6	675
Mid-Kansas:			
Getzleman	25-7-4	4	1,085
Lunay	30-7-5	3	370
Phillips:			
Cherry	25-7-4	2	160
Grace	2-7-4	1	105
Stahl	30-7-5	4	700
Prairie:			
Desmond	25-7-4	4	115
Ellison	25-7-4	4	400
Gammon	30-7-5	8	3,085
Hembree	19-7-5	4	2,371
Linn	30-7-5	4	650
Wolfe	29-7-5	4	2,805
Youts	19-7-5	4	295
Prairie et al:			
Davis	18-7-5	4	97
Prairie-Maud:			
Nesbit	18-7-5	2	260
Prairie-Shaffer:			
Rice	17-7-4	1	175
Pure:			
Dodson	26-7-4	2	127
Thomas	26-7-4	4	6,202
Tolen	1-7-4	1	275
Shaffer:			
Cherry	23-7-4	4	185
Tolon	30-7-5	4	520
Sinclair:			
Blandin	24-7-4	13	1,240
Brandenberg	7-7-5	3	1,065
Bruno	26-7-4	2	2,545
Gilbreath	25-7-4	2	950
Nadash	29-7-5	5	410
Nealy	25-7-4	5	190
Nealy-B	25-7-4	2	695
Nesbit	18-7-5	8	2,285
O'Kitchee	19-7-5	7	390
Sinclair-McGraw:			
Kelly K	2-7-4	1	135
Superior:			
Jackson	36-8-4	1	160
Texas:			
Cherry	25-7-4	4	835
Warner-Quinlan:			
Light	18-7-4	1	0
Westheimer-Daube:			
Freid	24-7-4	5	705
Small pumpers		111	3,524
Total		368	70,742

Asher Pool

Company and farm—	S.T.R.	Wells	Prod.
Commerce Dev.:			
Townsite	19-6-4	1	0
Indep.-Twin State:			
Gardner	19-6-4	1	20
Prairie-Slick:			
Laster	19-6-4	3	3,620
Simms:			
Laster	19-6-4	3	5,940

Company, farm—	Location	Wells	Prod.
T. B. Slick:			
Bledsoe	20-6-4	1	85
Alexander	19-6-4	1	285
Weiden	20-6-4	3	390
Slick-Amerada:			
Walker	19-6-4	1	820
Texola:			
Townsite	19-6-4	1	700
Total		12	11,860

Sasakwa Pool

Company and farm—	S.T.R.	Wells	Prod.
Prairie:			
Patten	18-6-8	1	1,940
Shell:			
Holatka	7-6-8	1	1,520
Sinclair:			
Davis	7-6-8	4	7,430
Signal:			
Bond	13-6-7	1	950
Total		7	10,940

Production of Seminole Area

Production of pools in the Seminole area by companies and leases for July 17, follows:

Little River Pool

Company, farm—	Location	Wells	Prod.
Amerada:			
Hotulke	22-7-6	1	0
Nitey	2-7-6	3	60
Amerada-Wilcox:			
Fore	35-8-6	3	245
Barnsdall:			
Cotcha	23-7-6	2	580
Hotulke	22-7-6	3	400
Walker	4-7-6	1	4
Blackwell:			
Baker	11-7-6	4	910
Nitey	35-8-6	5	305
Talley	14-7-6	4	755
Thomas	11-7-6	1	10
Bryan & Emery:			
Walker	4-7-6	1	13
Carter:			
Cotcha, M	23-7-6	3	90
Cudjo, L.	23-7-6	2	485
Fish	36-8-6	4	600
Harjo, C.	11-7-6	3	2,450
Harjo, M.	13-7-6	4	565
Jackson	11-7-6	4	750
Larney, B.	36-7-6	1	330
Larney, J.	24-7-6	4	1,797
Lena	10-7-6	1	460
Moore	11-7-6	2	40
Tewee	14-7-6	6	910
Thomas	11-7-6	1	380
Wilson	12-7-6	1	380
Champlin:			
Tewee	14-7-6	2	825
Continental:			
Cosar	36-8-6	7	912
Cosar, M.	25-8-6	1	322
Continental & Fisher:			
Milsey	11-7-6	2	286
Shaffer	4-7-7	1	0
Empire:			
Charty	24-7-6	1	57
Coker	13-7-6	2	500
Cotcha	27-7-6	2	63
Sandlin	3-7-6	1	10
Gypsy:			
Brown, C.	33-8-6	2	495
Brown, M.	33-8-6	1	817
Campbell	33-7-6	2	15
Conard	22-7-6	2	132
Cosar, W.	36-8-6	2	210
Cotcha	23-7-6	11	3,778
Denmark	11-7-6	5	1,170
Hulhoke	14-7-6	10	1,207
Mungee	1-7-6	1	0
Payne	5-7-7	3	1,335
Pottie	35-8-6	4	65
Renton	11-7-6	3	162
Independent:			
Carpenter	27-7-6	3	649
Davis, R.	13-7-6	4	1,070
Reed	26-7-6	1	32
Tewee	14-7-6	6	1,261
Williams	15-7-6	1	510
Independent & Highway:			
Harris	23-7-6	9	2,015
Independent & White Eagle:			
Davis	2-7-6	4	485
I. T. I. O.:			
Campbell	1-7-6	1	175
Dungan	35-8-6	3	335
House, M. A.	1-7-6	1	39
House, W. E.	1-7-6	1	5
House, "B"	2-7-6	4	651
Hull	26-8-6	3	237
Jackson	1-7-6	3	195
McCulla	2-7-6	3	629
Nitey	2-7-6	5	123
Phoebe "A"	36-8-6	2	27
Phoebe "B"	36-8-6	3	45
Reed	1-7-6	1	4
Soketheche	1-7-6	3	226
Magnolia:			
Cruse	2-7-6	4	96
Denby	11-7-6	4	152
Harjo, A.	14-7-6	2	75
Harjo, B.	14-7-6	2	192
Pottie	35-8-6	4	40
Reed, E.	31-8-7	1	38
Reed, I.	22-7-6	3	400
McCulloch & Sands:			
Harrison	4-7-6	1	1
Mid-Continent:			
Brunner	11-7-6	4	110
Eleck	23-7-6	1	25
Smith	5-7-7	7	13,230
Wadsworth	36-8-6	5	145
W. B. Pine:			
Hoyecha	26-8-6	7	1,715
Pine-Phillips:			
Pottie	35-8-6	1	150
Prairie:			
Chilcoat	25-8-6	3	570
Coker	1-7-6	2	685
Gibson	14-7-6	5	1,040
Harris	14-7-6	4	690
House	2-7-6	4	125
Johnson	24-7-6	2	1,110
Lustey	5-7-7	2	62
Moppin	24-7-6	2	45
Reed	13-7-6	2	755
Talley	14-7-6	4	415
Thomas	5-7-7	1	0
Williams	15-7-6	3	292
Wood	26-7-6	3	350
Carr	9-7-7	1	785
Prairie & Amerada:			
Sunny	14-7-6	5	930
Prairie & Slick:			
Cudjo	26-7-6	4	860
Pure:			
Brinson	24-7-6	3	1,240
Cotcha	14-7-6	10	1,805
Harjo	11-7-6	4	1,088
Hollins	11-7-6	1	168
Reiter-Foster:			
Bunyard	14-7-6	4	480
Jefferson	31-7-6	1	12
McCan	33-7-6	1	40
Shaeffer:			
Narcombe	36-8-6	2	140
Shell:			
Caesar	11-7-6	1	125
Glass	26-7-6	1	0
Hotulke	23-7-6	4	637
Johnson	13-7-6	4	1,080
Sinclair:			
Blanton	11-7-6	1	277
Cosar	36-8-6	3	882
Haney	12-7-6	1	85
Phillips	5-7-7	1	1,675
Tewee	14-7-6	2	1,530
Sinclair & Kingwood:			
Pompey	24-7-6	1	140
Skelly:			
Carl	14-7-6	2	1,649
Snowden-McSweeney:			
Tiger	13-7-6	2	200
Superior:			
Potulka	31-8-6	1	3
Texas:			
Brooks	25-8-6	1	12
Coker	1-7-6	3	7
Janey	11-7-6	6	1,135
Texas & Independent:			
Hotulke	23-7-6	5	1,040
Hotulke	22-7-6	3	652
Tidal:			
House	1-7-6	1	380
Johnson	1-7-6	1	20
Twin State:			
Lowe	25-8-6	1	65
Total		348	75,927

Carr City Pool

Company, farm—	Location	Wells	Prod.
Barnsdall:			
Coker	11-8-5	9	1,578
Fife	14-8-5	2	185
Carter:			
Coker	2-8-5	2	2,400
Empire:			
Cluck	11-8-5	12	4,760
Gypsy:			
Coker	10-8-5	1	25
Coker C.	2-8-5	1	1,232
Fife	14-8-5	1	15
I. T. I. O.:			
Simpson	10-8-5	1	0
Tully	10-8-5	1	43
Magnolia:			
"Fee"	11-8-5	3	988
Killing	14-8-5	1	5
Prairie:			
Billington	11-8-5	10	1,955
Mitchell	15-8-5	1	0

Company, farm—	Location	Wells	Prod.
Sinclair:			
Bean	11-8-5	3	380
Harjo	11-8-5	3	696
Total		51	14,563

Maud Pool

Company, farm—	Location	Wells	Prod.
Amerada:			
Ballard	1-8-4	1	65
Fehlig	7-8-5	1	75
Gossland	8-8-5	3	185
Gravel	1-8-4	1	5
Hallum	1-8-4	4	1,815
Amerada & Barnsdall:			
Wallace	17-8-5	3	250
Amerada & Hull			
Green	20-8-5	3	175
Continental-Shell:			
Everetts	18-8-5	2	55
Darby:			
Ketcham	19-8-5	1	7
Empire:			
Smith	8-8-5	1	800
Gypsy:			
Bourassa	7-8-5	4	52
Miller	18-8-5	8	787
Independent:			
Harding	18-8-5	5	225
I. T. I. O.:			
State	16-8-5	1	102
Laurel O. & G.:			
Billington	18-8-5	3	280
Magnolia:			
Billington	8-8-5	4	60
Green	20-8-5	3	273
Mid-Continent:			
Shelton	18-8-5	3	50
Phillips:			
Hudson	19-8-5	4	212
Wallace	17-8-5	2	115
Pine:			
Lingefelt	18-8-5	2	48
Smith	8-8-5	1	330
Prairie:			
Campbell	18-8-5	8	160
Prairie & White Eagle:			
Villines	20-8-5	1	15
Pure:			
Lindly	18-8-5	8	386
Urbansky	19-8-5	2	2
Wiley	8-8-5	4	1,245
Sinclair:			
Bellars	19-8-5	10	630
Calvin	7-8-5	3	275
Lewis	6-8-5	2	70
Skelly & Lenox:			
Green	20-8-5	1	55
Skelly & Margay:			
Lingefelt	18-8-5	4	187
Texas:			
Calvin	7-8-5	8	275
Tidal:			
Dunn	12-8-4	1	40
Everett	18-8-5	2	90
Smith	8-8-5	1	150
Twin State:			
Calvin	7-8-5	2	135
Wilcox:			
Smith	8-8-5	4	1,830
Total		122	11,511

Mission Pool

Company, farm—	Location	Wells	Prod.
Amerada:			
Rice	5-8-6	2	970
Carter:			
Fuswa	18-8-6	4	755
Micco	8-8-6	2	325
Melisse	9-8-6	1	605
Continental:			
Mains	7-8-6	4	1,088
Darby:			
Judy	1-8-5	1	65
Gypsy:			
Baby	6-8-6	1	15
Barkus, N.	6-8-6	10	5,740
Barkus, S.	7-8-6	1	125
Dosar	7-8-6	5	1,302
Hardy	7-8-6	7	360
Harjoche	7-8-6	4	165
Micco, L.	8-8-6	2	45
Micco, S.	8-8-6	1	20
Mission	5 & 6-8-6	7	2,028
Mosar	1-8-5	4	948
Independent:			
Lawson	1-8-5	5	1,525
Independent & Kistler:			
Payne	7-8-6	4	825
McMahon and others:			
Harjo	7-8-6	2	805
Mid-Continent:			
Ripley	13-8-5	1	200
Mid-Kansas:			
Moore	7-8-6	1	0
Minnehoma:			
Neal	7-8-6	4	664
Pine:			
Harjo	6-8-6	2	677
Micco	8-8-6	1	25
Prairie:			
Crain	7-8-6	1	155
Melton	6-8-6	3	1,390
Micco	5-8-6	1	10
Townsend	6-8-6	1	455
Prairie & Slick:			
Nelly	12-8-5	1	15
Prairie & Gypsy:			
Owens	18-8-6	2	415
Shaffer:			
Weaver	12-8-5	3	1,212
Shell & Continental:			
Herndon	7-8-6	3	1,262
Shell & Papoose:			
Maines	7-8-6	8	1,235
Sinclair:			
Hardy	7-8-6	4	1,070
Sinclair & Lenox:			
Judy	1-8-5	1	60
Tidal:			
Nelly	12-8-5	5	2,245
Twin State:			
Hayes	8-8-6	2	1,325
Judy	6-8-6	2	1,155
Ripley	12-8-5	2	165
Total		115	31,446

Bowlegs Pool

Company, farm—	Location	Wells	Prod.
Amerada:			
Roscoe	15-8-6	6	770
Atlantic:			
Baker	10-8-6	4	237
Fleet	23-8-6	3	90
Grayson	13-8-6	4	378
Jones, A.	16-8-6	2	15
Jones, C.	9-8-6	1	47
Barnsdall:			
McNac	28-8-6	1	22
Murrow	11-8-6	4	293
Carter:			
Bowlegs	15-8-6	4	412
Burden	23-8-6	2	240
Harjoche	14-8-6	6	445
Hilly	23-8-6	3	240
Jones	11-8-6	4	462
Walker	15-8-6	4	240
Wise	23-8-6	11	1,370
Dixie:			
Culley	11-8-6	1	40
Empire:			
Lacy	14-8-6	6	285
Wise	23-8-6	2	153
Gypsy:			
Bowlegs	22-8-6	1	0
Cumsey	10-8-6	4	500
Grayson	13-8-6	4	500
Harjoche	10-8-6	3	250
Jones	11-8-6	1	25
Walker	15-8-6	7	1,085
Wise	23-8-6	2	135
I. T. I. O.			
Barnett	24-8-6	2	71
Barnett "B"	23-8-6	1	26
Billington	22-8-6	3	328
Bowlegs	22-8-6	9	1,212
Davis	13-8-6	4	108
Fay	13-8-6	9	866
Goforth	15-8-6	12	1,525
Livingston	15-8-6	10	1,419
Lizzie	13-8-6	3	242
Walker	15-8-6	8	1,038
Williams	12-8-6	1	210
Wilmott	15-8-6	4	457
Work	24-8-6	1	41
Youngblood	24-8-6	2	54
Magnolia:			
Davis	13-8-6	3	381
Davis, M.	13-8-6	1	91
Hammond	10-8-6	8	465
Rhodos	12-8-6	5	424
Van Buskirk	9-8-6	4	400
McCulloch:			
Bowlegs	22-8-6	2	98
Mid-Continent:			
Baker	10-8-6	4	158
Smith	12-8-6	6	255
Minnehoma:			
Bowlegs	15-8-6	3	78
Prairie:			
Gahagan	23-8-6	3	235
Harber	10-8-6	8	1,600
Jones, G.	11-8-6	3	200
Jones, N.	3-8-6	1	187
Templeton	12-8-6	4	1,960
Whitney	23-8-6	4	445
Pure:			
Reed	14-8-6	14	2,437
Strother "D"	11 & 14-8-6	4	377
Strother "F"	10-8-6	7	2,047
Shaffer:			
Lacy	14-8-6	3	455
Shell:			
Taylor	16-8-6	5	28
Sinclair:			
Cumsey	10-8-6	4	940
Ellen	11-8-6	5	672
Harjo	14-8-6	3	502
Jones	9-8-6	7	360
Taylor	10-8-6	4	655
Taylor, W.	10-8-6	3	497
Walker	22-8-6	4	802
Texas:			
Reed	14-8-6	11	750
Tidal:			
Grayson	13-8-6	4	445
Harjoche	10-8-6	6	735
Total		300	34,560

Earlsboro Pool

Company, farm—	Location	Wells	Prod.
Amerada:			
Anderson	15-9-5	2	245
Cowden	4-9-5	7	908
Rogers	3-9-5	2	86
Atlantic & Sinclair:			
Foreman	18-9-5	1	110
Barnsdall:			
Brown	10-9-5	3	967
Bruner, F.	2-9-5	2	136
Bruner, N.	10-9-5	1	226
Cudjo	14-9-5	1	23
Davis, D.	11-9-5	3	112
Davis, J.	11-9-5	4	981
Davis, M.	11-9-5	2	14
Gibson	9-9-5	7	977
Hern	15-9-5	1	1
Ingram	1-9-5	6	317
Pack, S.	10-9-5	4	79
Peter	10-9-5	3	50
Sango	1-9-5	2	1,493
Sebalka	15-9-5	1	197
Sullivan, H.	11-9-5	1	5
Sull-Harjo	10-9-5	2	5
Wasutke	12-9-5	3	430
Burke-Greis:			
Wisner	6-9-6	2	155
Burke-Greis & Red Bank:			
Mays	1-9-5	3	1,793
Carter:			
Davis	13-9-5	3	90
James	6-9-6	3	1,820
Carter and others:			
Gilliam	13-9-5	2	1,362
Continental:			
Kays	2-9-5	2	30
Spencer	12-9-5	4	485
Cosden, J. S., Inc.:			
Anderson	13-9-5	1	2,835
Empire:			
Barker	12-9-5	1	0
Edmondson	3-9-5	2	0
Empire & Amerada:			
Bullock	8-9-5	2	1,045
Empire & Marland:			
Anderson	13-9-5	2	422
Gypsy:			
Bruner	10-9-5	4	692
Carter, B.	11-9-5	7	1,770
Earl	16-9-5	1	17
Hunick	5-9-5	2	1,620
Lottie	31-10-6	1	0
Noble	12-9-5	4	772
Payne	18-9-6	1	4,627
Peter	10-9-5	1	65
Sango	1-9-5	13	1,347
Sta.e	16-9-5	3	167
Independent:			
Bruner	10-9-5	3	190
Sullivan	10-9-5	1	12
Knapp	8-9-5	2	1,242
Independent-Margay:			
Gains	11-9-5	3	136
Magnolia:			
Anderson, A.	18-9-6	4	4,281
Anderson, D. W.	18-9-6	2	3,263
Bryant	9-9-5	6	14
Cowden	4-9-5	1	22
Dixon	12-9-5	1	14
Edmondson	3-9-5	1	3
Germany	30-9-5	1	12
Gilliam	13-9-5	3	2,975
Holmsley	11-9-5	6	5
Hyde	13-9-5	2	9
Ingram	10-9-5	1	15
Lena	10-9-5	3	45
Moore	24-9-5	1	836
Seay	12-9-5	9	169
Simpson	10-9-5	4	204
Sparks	11-9-5	6	50
Sullivan	12-9-5	3	0
Mid-Continent:			
McCumber	9-9-5	4	50
Rogers	5-9-5	4	3,165
Mid-Kansas:			
Anderson	14-9-5	1	30
Phillips:			
Dunaway	14-9-5	1	20
Reade	8-9-5	1	410
Prairie:			
Baker	24-9-5	4	945
Davis	13-9-5	3	455
Graham, C.	3-9-5	1	10
Graham, O.	10-9-5	4	830
James	6-9-6	1	0
Raitman	18-9-6	1	3,690
Stidham	11-9-5	9	905
Prairie & Skelly:			
Campbell	6-9-6	7	3,170
Prairie & Whitney:			
Harjo	24-9-5	1	15
Shaffer:			
Clark	1-9-5	2	80
Shell:			
Bayless	17-9-5	1	10
Hearn	13-9-5	1	65
Spencer	12-9-5	2	1,132
Sinclair:			
Alexander	36-10-5	1	755
Foreman	18-9-5	1	15
Hollins	12-9-5	1	15
Miller	24-9-5	1	857
Sango	2-9-5	4	1,225
Skelly:			
Mays	1-9-5	4	632
Shepard	6-9-6	4	1,486
Spencer	12-9-5	1	151
Skelly & Atlantic:			
Cherry	6-9-6	4	85
Lottie	6-9-6	4	1,279
Varnum	5-9-6	1	285
Superior:			
Ingram	1-9-5	2	1,012
Walker	2-9-5	2	1,230
Texas:			
Anderson	2-9-5	8	115
Brown	10-9-5	8	115
James	6-9-6	2	180
Rogers	5-9-5	5	620
Wilmott	10-9-5	6	65
Tidal:			
Walker	35-10-5	2	1,370
Watkins	9-9-5	7	1,725
Twin States:			
Barker	12-9-5	3	30
Hern	2-9-5	2	45
To.al		307	80,247

Seminole Pool

Company, farm—	Location	Wells	Prod.
Amerada:			
Fixico	23-9-6	2	84
Killingsworth	23-9-6	4	535
Rentie	23-9-6	3	290
Atlantic:			
Cudjo, N.	35-9-6	3	422
Barnsdall:			
Carter	24-9-6	6	175
Henry	14-9-6	2	458
Jones	34-9-6	4	415
Carter:			
Carter, B.	24-9-6	2	40
Carter, F.	23-9-6	3	90
Creamer	34-9-6	1	7
Cudjo, R.	35-9-6	4	160
Cudjo, W.	34-9-6	1	99
Gilliland	27-9-6	1	120
Grisso	23-9-6	4	200
Grisso, M.	15-9-6	1	225
Killings, G. F.	14-9-6	4	40
Killings, M. E.	23-9-6	12	3,755
Knapp	13-9-6	1	32
Lukes	27-9-6	5	1,005
Pounder	34-9-6	2	12
Simpson	35-9-6	2	107
Strothers	34-9-6	4	325
Vierson	23-9-6	1	17
Sanford	16-9-6	1	290
Empire:			
Gross	25-9-6	1	45
Wilson	34-9-6	2	216
Gypsy:			
Butler	35-9-6	4	840
Carter	24-9-6	3	667
Cudjo	34-9-6	4	510
Fixico	26-9-6	7	50
Harjo	25-9-6	3	255
Wolfe	26-9-6	5	530
Independent:			
Fixico, P.	23-9-6	3	470
Harjo	35-9-6	2	40
Butler	35-9-6	3	805
Fixico, T.	26-9-6	5	250
Jones	26-9-6	4	412
I. T. I. O.:			
Allen	25-9-6	2	11
Bowlegs, L.	26-9-6	12	1,770
Goodin	23-9-6	4	291
Harjo	23-9-6	3	46
James	24-9-6	2	96
Reed	24-9-6	1	8
Kingwood:			
Johnson	22-9-6	3	396
Magnolia:			
Boren	2-8-6	1	4
Franks	25-9-6	3	163
Mid-Continent:			
Rentie	14-9-6	9	440
Tayeche	24-9-6	7	155
Phillips:			
Strothers	27-9-6	2	90
Prairie:			
Cudjo	35-9-6	3	540
Franks	35-9-6	6	1,040
Giblet	35-9-6	3	1,190
Gross	25-9-6	5	35
Mason	36-9-6	1	60
Spencer	13-9-6	1	6
Strothers	27-9-6	8	1,805
Tiger	1-8-6	1	35
Pure:			
Strothers	26-9-6	17	4,434
Strothers, B.	36-9-6	4	637
Strothers, C.	34-9-6	1	275
Shell:			
Harber	22-9-6	1	209
Lasley	22-9-6	2	34
Sinclair:			
Carter	13-9-6	2	22
Cudjo "A"	35-9-6	6	750
Cudjo "B"	35 9-6	4	675
Dicey	22-9-6	2	400
Fixico	23-9-6	4	450
Superior:			
Cudjo	35-9-6	4	135
Noble	15-9-6	2	1
Texas:			
Mayhue	14-9-6	1	15
Strothers	2-9-6	1	55
Tidal:			
Carter	24-9-6	4	179
Fixico	26-9-6	7	1,490
Harjo	35-9-6	1	16
Harjo, T.	23-9-6	3	55
Turman:			
Cudjo	35-9-6	4	348
Grisso	35-9-6	1	68
Jones	34-9-6	4	912
Total		273	33,346

East Seminole Pool

Company, farm—	Location	Wells	Prod.
Barnsdall:			
Keypaya	7-9-7	1	20
Continental:			
Boring	17-9-7	1	46
Perry	18-9-7	1	656
Johnson	18-9-7	1	1,471
Devonian:			
Harjo	18-9-7	1	0
Gypsy:			
Harjo	18-9-7	1	15
Magnolia:			
Drewey	18-9-7	1	10
Prairie:			
Subbs	18-9-7	2	250
Shaffer:			
Haigler	19-9-7	1	15
Sinclair:			
Coody	18-9-7	1	1,530
Coody, I.	17-9-7	1	192
Johnson, G.	18-9-7	1	0
Thompson "B"	18-9-7	1	747
Warrior, J.	17-9-7	1	45
Warrior, S.	17-9-7	1	65
Total		16	5,384

Searight Pool

Company, farm—	Location	Wells	Prod.
Amerada:			
Johnson	4- 9-6	1	24
Nicey	3- 9-6	1	29
Strothers	3- 9-6	2	267
Barnsdall:			
Jackson	5- 9-6	2	27
Burke-Greis:			
Varnum	32-10-6	1	0
Carter:			
Davis	4- 9-6	3	280
Frazier	3- 9-6	5	760
I. T. I. O.	11- 9-6	1	405
Kiker	2- 9-6	1	17
Mandler	3- 9-6	2	5
Skiff	10- 9-6	1	120
Scott	26-10-6	1	12
Slick	11- 9-6	2	1,260
Carter and others:			
Strothers	11- 9-6	2	1,395
Steward	10- 9-6	1	365
Gypsy:			
Cudjo	4- 9-6	3	610
Nevins	32-10-6	2	410
Magnolia:			
Varnum	32-10-6	2	776
Varnum, W. F.	5- 9-6	1	67
Mid-Continent:			
Grayson	34-10-6	4	25
Saloche	33-10-6	6	405
Mid-Continent & Homa Okla:			
Nevins	32-10-6	4	1,175
Papoose:			
Marks	32-10-6	1	470
Pine:			
Lula	4- 9-6	1	14
Prairie:			
Cannon	33-10-6	1	2
Carter, J.	10- 9-6	1	3
Houch	33-10-6	1	3
Hurford	33-10-6	1	0
Kincaid	33-10-6	2	30
Wimer	33-10-6	1	15
Pure:			
Aldridge	3- 9-6	4	795
Shell:			
Strothers	3- 9-6	4	224
Crump	32-10-6	1	0
Sinclair:			
Polly	3- 9-6	4	1,405
Superior:			
Varnum	4- 9-6	1	0
Texas:			
Fleet	4- 9-6	1	17
Twin States:			
Varnum	4- 9-6	2	125
Wilcox:			
Chupco	4- 9-6	7	191
Total		81	11,788

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EQUIPMENT AND SUPPLIES

WIRE-LINE LUBRICANT GIVES A LONGER LIFE

"Reasonable service cannot be expected from a wire line unless it is properly lubricated," is a statement set down in wire line manufacturers' handbooks. Engineers working in the West Texas oil fields and chemical laboratories have corrected defects in lubricating material and its application so that actual through-to-the-core lubrication is an accomplished fact.

The D-H lubricator applies No. 269 lubricant in a manner designed to eliminate waste of time and material. It cleans the line and applies the lubricant in one operation and permits removal of all the unused lubricant in the machine. No. 269 lubricant forms a surface film over the entire rope to prevent evaporation of the penetrating lighter oils contained in it. An added agent for retention of these lighter oils is a fibrous material that is forced into the strands of the rope and acts much as waste holding oil in a bearing box.

No. 269 lubricant is insoluble in refined or crude petroleum products, water or any alkaline solution encountered in drilling operations. Both the lubricant and the lubricator are manufactured by the Drane-Humphrey Co., San Angelo, Calif.

AMERICAN WELL WORKS HAS NEW PUMPING UNIT

An oil well pumping unit of a new size has been put on the market by the American Well Works, Aurora, Ill. This unit, the "American" No. 4-A, is self-contained, with all its gears enclosed and running in a bath of oil. It has four different stroke-lengths—a flexibility which allows the operator to adjust the capacity of

the machine to the capacity of the well without changing the number of strokes per minute. This factor is particularly desirable where an electric motor is directly connected to the machine. The lengths of stroke to which the machine can be adjusted are 21½, 24, 31 and 36 inches.

The company furnishes the unit with either double of single reduction gearing, each type of this machine being made with over-size main casing and strong walking beam. The sampson post is rigidly supported by the gear housing, making a self-contained unit that can be maintained in alignment with the well. The new Type A pumping unit incorporates other features.

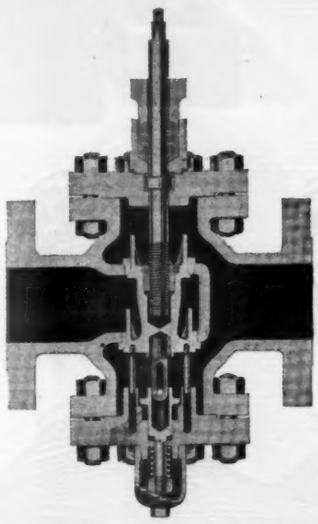
TO OPEN HOUSTON BRANCH

The D. & M. Machine Works, Lomita, Calif., manufacturers of D. & M. pistons, will open a branch office and warehouse in Houston, Tex., August 1. Plans include offices and warehouses in Shreveport, La., also to cover the Louisiana and Arkansas territories, and another plant in west Texas. Factory service men will be located at each of these points.

NEW TYPE OF VALVE IS OFFERED BY KEROTEST

The Kerotest Manufacturing Co. of Pittsburgh, Pa., has designed a cast-steel valve which the makers say will not only regulate all pressures, but provide a quick opening and a sensitive control. It has been successfully applied in the oil field under actual working conditions at both high and low pressures.

As can be noted in the sectional view, the Kerotest throttle valve's double-seating arrangement maintains an exact equalization of pressure and a perfect balance. The triangular openings of the



valve proper admit of sensitive control. The stem is of the non-rising type, having no operating threads exposed to damage or interfering with ease of operation. The release valve is automatic and positive in operation, opening at all times when the valve is full closed.

"The K-P Superimposed Head Will Help You See the Light" is the title of a bulletin issued by the Kennedye-Plumb Corp., St. Louis, Mo.

BROWN VICE PRESIDENT AND EASTERN MANAGER

Edward C. Brown has been elected vice president and eastern manager of the Dearborn Chemical Co., and will have

Edward C. Brown

charge of the New York office and eastern department. Mr. Brown has been with the company for 30 years. He was 11 years in the Hawaiian Islands, in charge of the Dearborn interests there, and following this spent several years for the company in establishing business in China, Japan and the Philippine Islands. About two years in the general offices in Chicago and New York was followed by a trip to South America to investigate the whole South American field. A branch office and warehouse were opened in Buenos Aires and Mr. Brown, as foreign manager of the company, has spent most of his time for the last 16 years in South America. He was president of the American Chamber of Commerce in Buenos Aires, 1925-1926.

Mr. Brown is succeeded in Buenos Aires by W. M. Campbell, his assistant there. Grant W. Spear, who has spent his business career with the Dearborn company and for the last 20 years has been vice president and eastern manager, is retiring from the heavier work of the business, but will remain as a director and act in an advisory capacity.

PORTABLE SHOP IS ADDED TO OILWELL FIELD SERVICE

The portable shop shown here was built especially for the Oil Well Supply Co. for use in installing Nicholson thermic syphons in boilers in the field. The shop consists of a complete welding outfit, both electric and acetylene, and an air compressor for the operation of air-driven tools. The equipment is being used now in the Mid-Continent Field and this service, which also includes general welding, is to be extended later to other fields.

The Nicholson thermic syphon is the latest contribution of the Oil Well Supply Co. to boiler manufacture. Its advantages are stated by the company to include increased fire box heating surface, increased circulation, increased steaming capacity, increased general efficiency, reduced fuel consumption and reduced maintenance costs.

TRADE LITERATURE RECEIVED

The Sivyer Steel Casting Co., Milwaukee, Wis., has prepared a 54-page book on steel casting patterns to help manufacturers standardize their pattern equipment to obtain more uniform castings.

The American Rolling Mill Co., Middletown, Ohio, is sending out a rotagravure showing a wide variety of installations of pure iron sheets and plates in different kinds of industries.

The Homestead Valve Manufacturing Co., Homestead, Pa., has published a new catalog. Features shown for the first time are the 8-inch and 10-inch straight-way valves, 12-inch three-way valves and a special two-way protected seat hydraulic operating valve which may be used as a spray valve or as a tube-tester relief valve.

The General Electric Co., Schenectady, N. Y., has prepared an 8-page booklet describing its arc-welding school.

Wilson-Snyder, Pittsburgh, Pa., is sending out a four-page bulletin on cast hot-oil pumps for temperatures up to 600 degrees.

Calyx core drills are described and pictured in a bulletin issued by the Ingersoll-Rand Co., New York.

How wire is tested in a modern rope factory is described in one of the articles printed in the current number of "The Yellow Strand," published by the Broderick & Bascom Rope Co., St. Louis, Mo.

"Efficient Gas Line Organization" is the title of an interesting illustrated article in the current number of "Oxy-Acetylene Tips," published by the Linde Air Products Co., New York.

The P. H. and F. M. Roots Co., Connersville, Ind., has issued a 16-page bulletin on low pressure type rotary positive blowers. With it the company is including another new bulletin, "Covers Industry Like a Blanket," and a book on "Engineering Tables," all bound in a loose-leaf cover.

The Worthington Pump & Machinery Corp., Harrison, N. J., has published an eight-page illustrated bulletin (W-900 B-1) describing its gasoline meters for use in filling stations. Details are given of the construction, installation, calibration and care of the gasoline meters. Worthington meters for measuring other fluids also are shown.

The Westinghouse Electric and Manufacturing Co., East Pittsburgh, Pa., announces the release of leaflet No. 20,-287-A which explains the use of the Sharples oil reclaiming process equipment in application to circuit breaker oils. The leaflet describes the apparatus used, and with the aid of photos and diagrams shows the operation and construction of the unit.

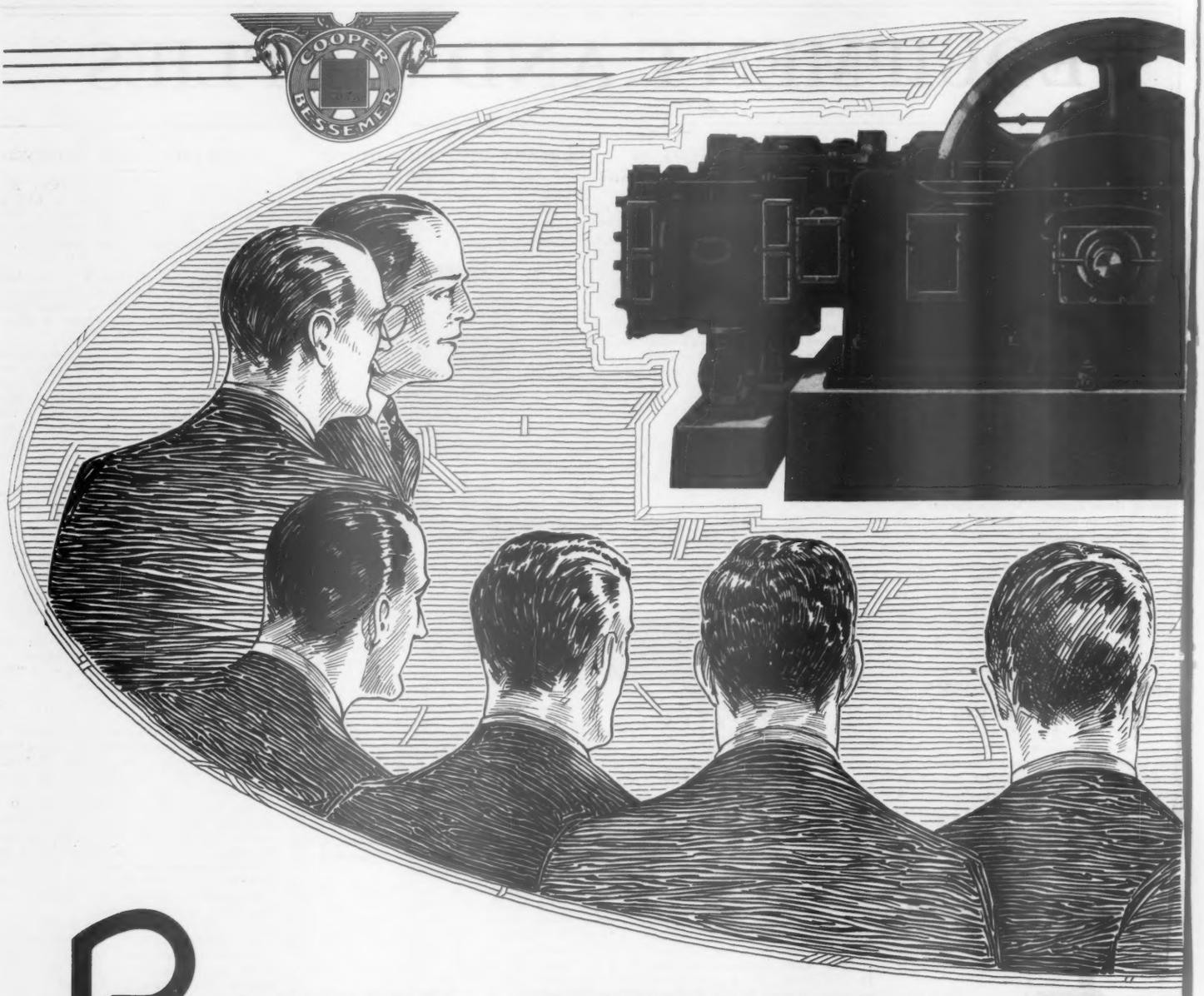
BUSINESS NOTES

The Illinois Central Railroad Co. has ordered five 600 horsepower oil-electric locomotives from the Ingersoll-Rand Co. and the General Electric Co.

The Moon Manufacturing Co., Chicago, announces that it is now carrying stocks of generators in warehouses in Oklahoma City and Tulsa and in Fort Worth, Tex., for the greater convenience of customers in oil fields.

In the issue of The Oil and Gas Journal for June 27 it was stated that Harvey Stone had joined the staff of the Hughes Tool Co. This was an error. Mr. Stone is not with that company.

New price lists have been mailed by the Guiberson Corp., Dallas, Tex., on swabs, type "A", type "E" and liner; tubing catchers, underreamers, tubing oil savers, casing oil savers, tubing stripper, spiral plugs, spiral tubing and casing packers, sucker rod sockets and disc bits.



BUYING ATTENTION CEN

Engine-buying frequently involves the opinion of Joe—the operator, Sam — the superintendent, Grey — the manager, and one or more stockholders. Just let the 2-cycle, gas-injection type of engine be mentioned for the job—any buying attention immediately centers on BESSEMER Type-10. Because the injection of the fuel gas under pressure into the cylinder is *timed*, 4-cycle fuel economy is attained with the 2-cycle principle of operation. In addition to the material saving in fuel-gas, the power output for any given cylinder is increased.

BESSEMER

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In the oil and gas fields of the world, Bessemer's "99% running time" is as familiar as the sound of a Bessemer exhaust is common. This reliability results from strength in structure, simplicity in design, accessibility in adjustment. *More hours on the load, for more years, at less cost* means more Bessemer engine-buyers every year.

THE COOPER-BESSEMER CORPORATION

THE C. & G. COOPER COMPANY
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THE BESSEMER GAS ENGINE COMPANY
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ENGINES

Natural Gas Developments

WASTE GAS COMMISSION MAKES INTERIM REPORT

CHATHAM, Ontario, July 20. — The joint committee recently appointed by the Dominion government and the province of Alberta to investigate the waste gas problem in Alberta has made an interim report to the Dominion government containing a number of recommendations with regard to drilling operations in the Turner Valley Field.

The report recommends an agreement between the Dominion and the Alberta governments to secure more efficient control of the production in Turner Valley. This agreement would regulate the location, drilling, casing, cementing, control and operation of wells. The committee also recommends that present federal regulations be extended to control drilling and operation, and that the provincial government formulate similar regulations to govern operations under its jurisdiction.

The federal government has jurisdiction only on oil and gas leases secured direct from the crown; while it has no jurisdiction over leases from railway companies, certain land companies, the Hudson's Bay Co. and early homesteaders. The provincial government has jurisdiction over the latter. The report contemplates the formulation by both governments to simultaneously and effectively cover all operations. Control of all future drilling operations in any district is recommended, such control to be exercised irrespective of the ownership of the lands.

A further recommendation suggests that the minimum area to be allowed an operator under federal regulations be 40 acres.

Finally it is suggested that the revised regulations provide that all wells now drilling above the limestone be properly finished by cementing all casing to the surface, and by providing high pressure fittings so that it will be possible to close any well completely if this is thought desirable.

Doctor Camsell, deputy minister of mines, chairman of the joint committee, stated in his report that the attitude of the operators was one of sympathetic cooperation and that much would be done voluntarily toward properly cementing the wells to reduce the waste of gas. The commission, after a series of hearings, has adjourned to meet again in September.

BROWN JOINS ROBERTS-GORDON

The Roberts-Gordon Appliance Corp. of Buffalo, N. Y., has taken over the manufacturing and sale of the Roberts gas conversion burners and the entire business of the Roberts Gas Burner Corp., and is adding to its staff a number of well-known gas heating men. The latest addition is W. Re. Brown, of Pittsburgh, Pa. Mr. Brown has had many years of gas merchandising and was for over 12 years new business manager of the Ohio Fuel group of natural gas companies in Ohio. Mr. Brown is also widely known throughout the natural gas industry for his activities with the Natural Gas Association, as he served for 10 years as "Wrinkle Editor" for the association and was the founder and first editor of the association's monthly magazine. Mr. Brown is now on an extended trip throughout the States of Pennsylvania, Ohio, West Virginia, Indiana and Kentucky, where he will represent the Roberts-Gordon interests.

LEFORS CARBON PERMIT

Permit has been granted to the Western Carbon Co. for the erection of a carbon plant near the Lefors Pool in southern Gray County, Texas. It is to handle about 20,000,000 feet of residue gas per day.

EQUITABLE RATE SCHEDULE DISCUSSED BY GAS ENGINEER

What was described by J. A. Dykman, counsel for the Brooklyn Union Gas Co., as the best short statement of the present situation in the gas industry, was given by F. C. Hamilton before the New York Public Service Commission during the inquiry in the matter of uniform rates and charges.

Mr. Hamilton is a member of the executive committee of Henry L. Doherty & Co., and has been consulting engineer for the company, in charge of valuation and rates, since April, 1917.

In listing what he called the "fundamentals of any equitable rate schedule," Mr. Hamilton placed first the need of a compensatory rate and second the contention that any rate must, to a greater or less extent, be arbitrary, because no companies are sufficiently small to make possible an instantaneous valuation or determination of the cost of rendering service. He held that no rate yet devised can do absolute justice to all consumers.

Mr. Hamilton discussed the flat rate, which was so much per month; the straight meter rate and "the customer charge rate," with its various ramifications and refinements. These methods of rate fixing, in the order mentioned, he held, have proved less and less discriminatory and were forced upon the companies as they found earlier methods penalized larger consumers, at once their most desirable customers and those most easily lost.

Straight Rate Meter Unfair

Mr. Hamilton pointed out that the straight meter rate or any other form of rate which is compensatory must include a charge for customer costs.

"With a straight meter rate some customers pay none of the customer costs. Other customers pay a portion of the customer costs, which they force on the company, and other and larger customers, provided they continue to take service from you, pay one, two, three and more times the customer charges which their service creates for the company.

"The customer charge rate, by which I mean a rate that makes a fixed charge per customer per month, without the inclusion of any service in the way of gas, goes a longer way toward smoothing out this discrimination between customers. The rate, which includes a certain amount of gas with the first initial charge, but which includes no fixed charge unless that gas is used, to a lesser extent obviates the discrimination.

"It has been my experience in the various determinations of rates that when you change from a straight meter rate to either a high first block or to a customer charge, it was inexpedient to put all of the customer charges into either the customer charge or into the first block. That principally is due to an assumption on the part of the public and the part of many public officials, that the small customer is the poor customer, something that is obviously an error. Small customers must be able to afford other and higher priced forms of service to remain in the small customer class. By that I mean they must occupy apartments where hot water heating is furnished with the building, which means they must pay a rent above that which the ordinary tenement user pays. Because nobody can use gas for cooking and hot water heating and remain in what we call the smaller blocks, which are 500 to 1,000 feet per month, or less.

Small Consumer Defined

"The usual small consumer, which has been indicated by numerous surveys, is either a dentist who uses a gas flame for some of his dental work, a cigar store that uses gas for a cigar lighter and electricity for lighting usually, an apartment in the medium or higher class apartment buildings where hot water heat is furnished from the basement, as is also house heating, or to larger homes that are oc-

(Continued on Page 185)

REVISED GAS RATES APPROVED IN JERSEY

TRENTON, N. J., July 20.—The Public Utility Commission has authorized the Public Service Electric & Gas Co. to put into effect a new schedule of rates for gas. Small consumers will be required to pay more for their supply, while large consumers will pay less. The approved schedule is a modification of the one filed by the company in December.

The maximum increase in any bill will be 47 cents. This is for the consumption of 900 feet a month, heretofore billed at $1.08. Under the approved schedule the charge will be $1.55. The company wanted to make it $1.66.

Previously 800 feet a month were allowed for the minimum charge of $1. The new schedule cuts it to 400 feet, with 600 feet at $1.22 and 800 feet at $1.44. The company proposed to allow 200 feet for $1. For 400 feet the charge would have been $1.19, with 600 feet for $1.38 and 800 feet for $1.57 under its proposed schedule.

The turning point between increase and decrease is at 3,200 feet monthly, the charge for which, under the old rate, was $3.84. The new rate is $3.81.

It was said that the new rates will give no increase in gross revenue to the company unless consumption is increased, their purpose being to encourage the use of gas.

NEW SERVICE BUILDINGS

SHREVEPORT, La., July 20.—Opening for use of the Arkansas Natural Gas Corp.'s group of new service buildings in Shreveport was made the occasion of a celebration of sorts, the Shreveport Rotary Club being guests of the company for the weekly luncheon. Stenographers and secretaries turned waitresses for the day, and D. W. Harris, vice president; W. H. Buckley, superintendent of the pipe line department, and Paul F. McBride, general manager of the Southern Cities Distributing Co., the corporation's retailing agency, were the speakers.

The three new buildings afford the service department approximately 17,000 feet of floor space; a warehouse 60 by 100 feet, garage 50 by 130 feet, and meter shop 40 by 110 feet.

TO STUDY WASTE GAS

CHATHAM, Ontario, July 20.—Following adjournment of its Alberta investigations, the commission recently appointed by the Dominion and Alberta governments to investigate the waste gas problem in Alberta, will investigate the handling of such problems in the United States fields. Investigations are being conducted from three main angles: Conservation of gas by underground storage; restriction of production and extension of utilization as fuel, and use of gas in carbon black, chemical and other industries.

SUPER GAS COMPANIES INDICATED BY TREND

The recent activity in public utility stocks is attributed by the New York Commercial to reports indicating approaching developments in the gas industry which should have an important bearing on utility events. The new financing undertaken by the Koppers Gas & Coke Co. with the understanding that the new capital would be used to acquire further holdings in the Eastern Gas & Coke Co., which operates through subsidiaries a number of by-product gas plants in southern New England, was taken, the Commercial says, as an indication that the same interests were planning a chain of gas companies.

Should the much rumored merger of Brooklyn Union and Consolidated Gas of New York take place, it will largely be through the efforts of the Koppers interests, which are known to have a considerable interest in both companies.

The strength of Columbia Gas & Electric is also interpreted as reflecting speculation as to these gas plans. It was rumored that these interests have acquired an interest in this large natural gas holding and operating corporation, and that Columbia Gas would play a part in the future plans of the Koppers group.

On the other hand, it is still considered a strong possibility that the proposed consolidation of the Columbia natural gas properties with those of Cities Service Co. may be a development of the near future.

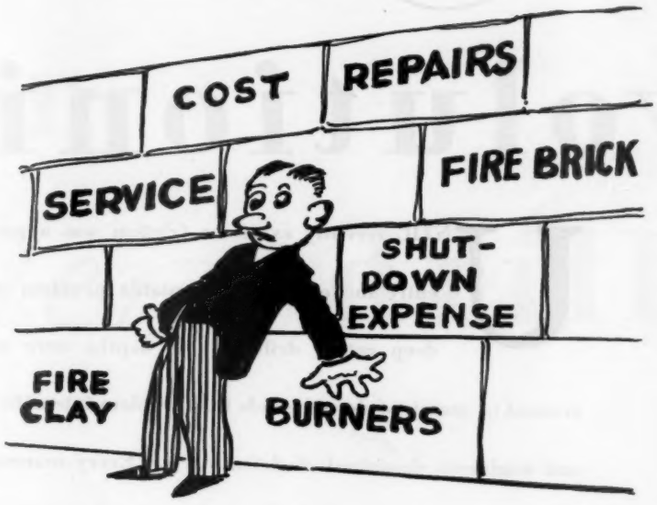
This reported merger would in nowise contradict the rumor of the plans which Koppers interests may have for the development of Columbia Gas. There is a definite tendency in the gas industry to use natural gas more extensively as an enriching agent for manufactured gas. Should this policy be carried out it would mean that in a great number of territories at present served only with natural gas, gas plants will be constructed. With the Koppers interests closely associated with Columbia Gas, it is presumed that the company, through its subsidiaries, will erect by-product plants within the Columbia territory.

The gas industry would then be seen in an entirely new light. On the one hand would be an enlarged super-natural gas company, distributing its product through long distance pipe lines and selling it to local gas companies to be mixed with the manufactured product. There would then be a chain of Koppers controlled by-product gas plants manufacturing gas and selling the by-product coke directly. These companies, as is at present the case in a number of instances, would sell their gas production on a long time basis to local distributing companies. The companies, in the third place, are coming to be largely under the control and management of electric utilities. For retail and customer relationship purposes, this is highly advisable, but with electric companies passing more and more into the control of holding groups, more interested in the development of the electrical end of the business, it is held to be likely these interests would welcome passing over the technical end of the gas business to some more highly specialized group.

GAS FOR OKLAHOMA TOWNS

Natural gas service has been established at Woodward, Okla., by the Winchester Oil & Gas Co. through a pipe line from the Barber County Field, near Harper, Kans. A total of 110,880 feet of gas mains have been laid by the company in Woodward. Service has been started by the company also at Mooreland, Alva and Waynoka. The Barber County Field, which is the source of supply for these towns, is said to be producing 110,000,000 feet of gas per day.

IT HAS BEEN SAID:



"I'm Up Against a Stone Wall"

The average executive is—when it comes to the selection of gas burning equipment for his plant.

We all know that a gas burner is nothing but a very simple gas and air mixing device and this probably accounts for the more than 8000 gas burner patents in the files of the Patent Office. Nearly every Tom, Dick and Harry with a few months' experience in gas burning thinks he knows just how a gas burner should be made and proceeds to patent his idea, but how many of them are practical? Not *one* in a *thousand.*

The METTLER ENTRAINED COMBUSTION GAS BURNER is the result of 30 years' experience in the application and burning of combustible gases; and the fact that we have thousands of satisfied users, including most of the largest gas consumers in the country, proves conclusively that it is an article of MERIT. Investigation will convince you. Fill out blank in lower corner.

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*Trust One Who Has Had Experience.

The Revolutionizing in

UNTIL recently excessive friction was apparently the one insurmountable problem of deep rotary drilling. As depths were increased in search of deeper sands this problem intensified and engineers despaired of defeating it. Every manner of device was conceived to reduce drill pipe friction — except the *simplest* — until the advent of Bettis Protectors. Prior to their introduction drill pipe friction was the principal underlying cause of twist-offs, water breaks, excessive fuel and power consumption, and countless other hindrances experienced in modern rotary drilling. With revolutionary effect Bettis Protectors readjusted drilling practice and are recognized as the outstanding factor in practical drilling to the greatest depths.

No specialty has ever been introduced that was more enthusiastically accepted by the Industry. This is indicated in the fact that more than 95% of all deep wells completed or drilling during the past 18 months have been Bettis-equipped. Use of these Protectors proved so successful in deep rotary drilling that they were quickly adapted to shallower drilling with equally gratifying results. Since their advent more than 170,000 have been installed — and the drilling string without Bettis-protection is now an exception seldom seen in any field.

Bettis Protection

. . . a necessity!

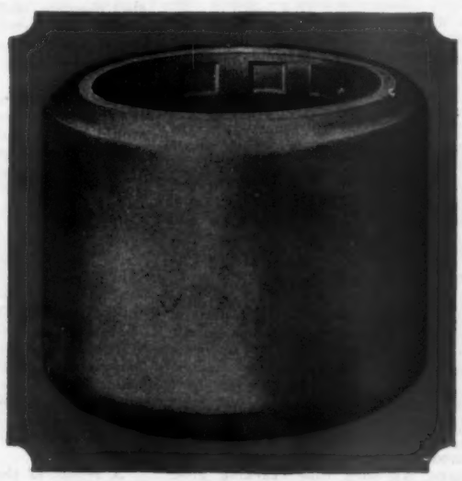
factor
Modern drilling

The fact that Bettis Protectors are used in the World's deepest wells where only the finest equipment is used, and have been adopted as standard equipment by almost every successful drilling operator, is indisputable evidence of the merit of the Product.

Consider the simplicity of Bettis Protectors. They consist of a single piece of solid, homogeneous, grainless rubber, molded into shape by a highly developed process. No metal is used. No seams are required. No hinges or pins are attached. No extra gadgets are needed because the specially processed rubber performs every function desired, that of clinging to the drill pipe and serving as a resilient cushion so that the drill pipe, joints and collars can never contact the casing. They are installed directly upon the drill pipe or in the grooves of Hopkins Anti-friction Tool Joints and Collars. The diameter of the Protectors is slightly larger than that of the tool joints and collars. They are *lubricated* by the mud in the well. The special Bettis Rubber has greater resistance to abrasive action than any other rubber or material known and the Protectors actually outlast the drill pipe. The rotary mud, serving as a lubricant, maintains a perfect film between the protecting rubber rings and the casing. By installing the Protectors throughout the pipe a resilient cushion is provided so that 100% protection is given to the drilling string and casing. But there are many other advantages offered.

Fully patented.

"Best bet yet!"



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Technical Questions Answered

BY CHARLES K. FRANCIS, PH.D., TECHNICAL EDITOR

This department of The Oil and Gas Journal is devoted to the manufacturing branches of the oil industry.

Those connected with the refining of crude petroleum, the manufacture of natural gasoline and closely allied industries are invited to submit their problems to Dr. C. K. Francis, technical editor. The department was created for the purpose of aiding managers, superintendents, engineers, chemists and all those engaged in the various phases of plant operation; also those connected with the marketing and utilization of petroleum products.

Questions should be submitted in as much detail as possible so as to assure a satisfactory answer.

All inquiries should be signed and if other than the given initials are to be used please indicate the desired letters.

Questions involving patented processes, intricate formulas and calculations and estimates of costs, for obvious reasons, cannot be answered. The replies will appear on this page within a reasonable time.

FINERY GAS AND FUEL OIL

What would be the relative cost of still gas vs. fuel oil per B.t.u. at the burner under stills? Suppose, for instance, I could sell either my still gas or my fuel oil, what would be the price differential which would determine which I would sell and which I would burn under my stills?—A. K.

All of the local conditions have to be considered in order to arrive at a satisfactory comparative value for two fuels. These must include plant conditions, the heating value of the two fuels, and market prices. The heating value of fuel oil may be calculated from the gravity and the B.t.u. determined in this manner is usually considered to be accurate enough for ordinary purposes. The heating value of the gas cannot be had so easily; it should be obtained by means of a calorimeter determination or calculated from the analysis of the gas. There are so many opportunities for refinery gas to be diluted with air that the analytical method should be employed.

As you have not given any of the information above indicated, I shall have to suggest some of the general facts which you may apply. A table showing the heating value of fuel oils ranging in gravity from 10 to 20 was given on this page in the September 27, 1928, issue. The heating value of refinery gas may range between 1,200 and 1,730 B.t.u. per cubic foot; the higher value being used as a basis for comparison. The heating value of 20 gravity fuel oil is accepted to be 19,050 B.t.u. per pound or 6,218,394 B.t.u. per barrel, and 1 bbl. of this fuel oil is equivalent to 3,594 cubic feet of the gas.

Knowing the local value of the fuel oil, you may convert this to money terms and thus arrive at the price that should be allowed for each B.t.u. There may be a special condition in your locality whereby the demand for a rich gas is such that the gas may be sold to advantage and of course this fact would have to be allowed for when making this sort of comparison. A rich gas may be handled and burned at a slightly lower expense than oil when modern equipment is installed and the construction is adapted to both fuels; therefore, the B.t.u. ratio should be corrected to balance this slight advantage that may exist in favor of the refinery gas.

KINDS OF CRACKING PROCESSES

Can you give me a brief description showing the various kinds of oil cracking processes which are known in the refining industry?—W. H. L.

A plain statement of the different types of cracking processes, which produce the decomposition by heat, has been given in the report of a patent suit as printed in the United States Daily, June 18, 1929, page 8, as reproduced below:

"The art under examination has been classified into four types of pyrogenetic cracking processes, which are:

"First. Bulk distillation at atmospheric pressure, which is characterized by the fact that a large body of oil is held at a cracking temperature for a very long period of time (a matter of hours or days). This would include the class of operation in which cracking takes place in the latter part of the ordinary coking method of running crude oil. This is the method by far the most widely used prior to 1912 and is still very widely used. It is very simple and easy to carry out and produces considerable quantities of kerosene (which was the product most desired from the crude oil prior to the demand for motor fuel). This method of cracking was only applicable to materials which boiled higher than gas oil (well above 700 degrees), because everything in the ordinary gas oil range and lower distilled out before appreciable cracking began to take place. It was only the heavy products which stayed in the still that were cracked to any considerable extent. This method requires hours or days at temperatures generally between 700 and 820 degrees Fahrenheit, and such processes usually run to a coke bottom which is not feasible in bulk pressure distillation. The method produces comparatively little gasoline together with considerable gas and a large amount of coke.

"Second. Bulk pressure distillation—a very slow distillation. In this method a large body of oil is held at a cracking temperature for a long period of time—a matter of hours and days—but under substantial pressure, and there is distilled out of the system the products somewhere nearly as fast as they are formed, letting the unchanged products stay back for a longer time under cracking conditions. The degree of pressure, of course, correspondingly raises the degree of temperature at which given products can be held liquid, and therefore tends to increase the cracking rate and makes it possible to crack lighter materials than in a still without pressure.

"Third. Tube-cracking — which includes a great many of the prior art processes where the oil is passed through a long narrow retort or tube which is heated generally to a bright red heat and the stream of oil is passed through and undergoes progressive evaporation and decomposition. In some cases, the oil has been vaporized before it enters the cracking system.

"In this method, while passing through the long tube, the oil gradually vaporizes, but both the liquids and the vapors and both the uncracked and the cracked materials go along together and are subject to cracking for approximately the same length of time.

"Tube cracking processes, on account of requiring a shorter time, necessitate the use of a higher temperature in order to produce a reasonable amount of cracking, and they characteristically have operated with temperatures considerably above those used in bulk pressure distillation, and have a time of contact that is measured in minutes rather than in hours and days. All such tube cracking processes have some pressure at the inlet of the coil and in some cases they carry pressure clear through the coil.

"Fourth. Flash or film cracking—in which all the cracking is produced by almost instantaneous contact of oil or oil vapors with a very hot surface. If liquid oil is fed to the apparatus, it is generally dripped or sprayed on the hot surfaces, where it is vaporized and cracked almost simultaneously.

"In this method there is nothing more than a spray or film of liquid oil in the cracking zone and the cracking contact is a matter of seconds or fractions of a second, while the temperatures required are those of red heat of metal or higher. The pressure is usually substantially atmospheric because of the difficulty of building containers which will hold pressure at such temperatures. The hot surfaces employed may be a hot metal retort or frequently of brick or the like."

METHANE IN NATURAL GAS FOR ORGANIC COMPOUNDS

Most natural gas contains a large proportion of methane. Is it not true that such hydrocarbons can be easily combined with chlorine and that such compounds as chloroform, methyl alcohol and a series of organic compounds could be made from such base materials?—C. D. R.

You will find upon consulting the standard text books on organic chemistry and the patent literature that much work has been done in the field of making various compounds from natural gas. A discussion of the subject may be found in the article by Nash and Stanley, Fuel in Science and Practice, Vol. 7, page 397, The Possible Chemical Utilization of Methane with Special Reference to Natural Gas. The part about chlorination is given below.

"The chlorination of the methane of natural gas appears to be one of the most promising modes of attack. The scientific and patent literature on the subject is very extensive but it cannot be said that our knowledge of the process has advanced sufficiently to enable the chlorination to be controlled in such a way as to give one product in good yield. Numerous processes have been advanced, differing in design of apparatus, and in the use of actinic rays (such as ultraviolet light or a carbon and iron arc) and of various catalysts, while chlorination in liquid media and the use of sulphuryl chloride and phosgene as chlorinating agents have also been advocated. In general, all the four possible chlorination products of methane, namely methyl chloride, methylene dichloride, chloroform, and carbon tetrachloride are produced simultaneously, the relative proportions of these products depending on the conditions.

Of these products, methyl chloride, if it could be produced sufficiently cheaply, would have a wide field of utility in the dyestuffs and pure organic chemical industries. It might also be used as an anaesthetic and as a refrigerating agent. Great interest is attached to the possibility of converting methyl chloride into methyl alcohol (which is the basis of a variety of syntheses) by hydrolysis, and this process has been the subject of several patents (Lacy, E. P. 20550-1914; Canadian P. 191542-1919.

Methyl chloride also offers possibilities for the manufacture of toluene from benzene by the Friedel-Craft's reaction. Chloroform finds a wide application as an anaesthetic, commercial solvent, and synthetic agent, while the value of carbon tetrachloride as a solvent is well known.

A report of the United States Bureau of Mines (Technical Paper 255 of 1921) records some experiments on the chlorination of natural gas using a variety of metal-impregnated catalysts, and the main conclusions may be briefly stated as follows:

(1) A yield of 90 per cent, of chloroderivatives may be obtained, on the basis of the gas used.

(2) The temperature range for the chlorination process extends from 225-500 degrees Centigrade.

(3) Activated charcoal catalysts give large yields of carbon tetrachloride but are not suitable for the manufacture of methyl chloride.

(4) The highest yields of methyl chloride (about 31 per cent) were obtained by using a catalyst of coke impregnated with a metal such as nickel, tin or lead, and employing a ratio of two volumes of chlorine to one volume of gas.

Where a cheap supply of chlorine is available the chlorination process appears to offer great possibilities. One of the greatest obstacles which confront the successful large scale application of the process is undoubtedly the great difficulty of governing the reaction, which is exothermic and consequently liable to get out of control.

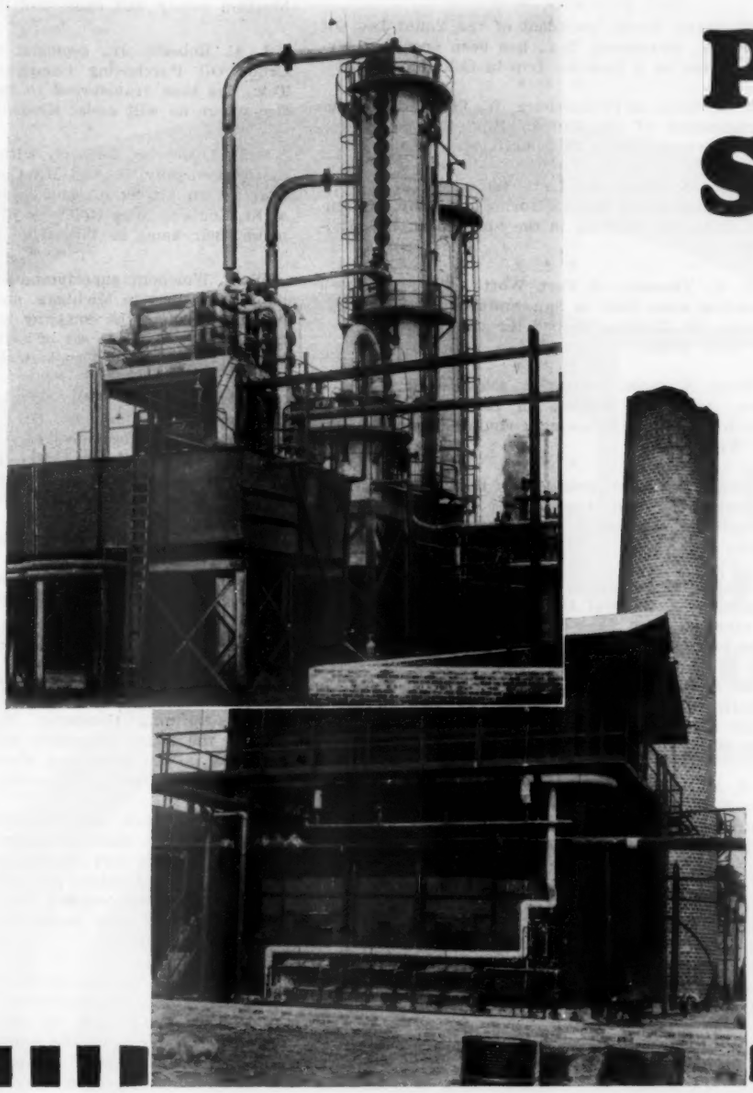
EXPLOSIVE GELATIN

Kindly give me some particulars about the gelatin that is used for shooting. When was this first made and tell me how it is made?—H. G. P.

Explosive or blasting gelatin is one of the inventions of Nobel and was discovered about 1875. The preface to the Swedish patent, as translated by Escales, gives all the important points concerning this material in concise form. This may be found with other details in the book Nitroglycerin and Nitroglycerin Explosives, by Naoum, as translated by E. M. Symmes. The preface mentioned is reproduced below.

"As is well known, nitroglycerin in a liquid form has been found too dangerous for commercial use. On account of this danger, I have invented dynamite, i.e., nitroglycerin absorbed in very porous materials. However, dynamite has only two-thirds the strength of nitroglycerin and is spoiled by contact with or under pressure of water, because the liquid nitroglycerin is in this way displaced from the dynamite. For this reason I have attempted to give the nitroglycerin a solid form in another way. I attain this object by a gelatinization process. This is done by dissolving in the nitroglycerin, gently heated on a water bath, nitrocellulose such as is used in the preparation of collodion. The explosive liquid thereby becomes more or less viscous, and after it has absorbed 6 to 7 per cent of its weight of nitrated vegetable fiber it attains a rubbery or gelatinous consistency, particularly well suited for industrial purposes. However, I do not limit the solution to the above composition, because for various purposes various degrees of hardness of the explosive are required, and the degree of hardness depends upon the relative amount of dissolved nitrated vegetable fibers. In the gelatinization of the nitroglycerin care should be taken that (1) this liquid contains no impurities which will prevent it from dissolving nitrated cellulose when warm and affecting it adversely, (2) that only readily soluble nitrocellulose is used, and (3) that solution of the nitrated cellulose, especially if the latter be matted together, is facilitated by working and kneading the mass.

"The gelatinized nitroglycerin can be easily pressed into cartridges or given other shapes."



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Flexibility in Operation Is the Prime Requisite of a Pipe Still

This installation, designed and built complete by Graver, is efficiently delivering gasoline, kerosene, gas oil and lubes from a variety of stocks.

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GRAVER Corporation

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844 Rush Street ~ Chicago

NEW YORK FORT WORTH LOS ANGELES

Plant — East Chicago, Indiana

MEN KNOWN IN OILDOM

O. E. Dougherty

O. E. Dougherty, general superintendent of production for the Oklahoma, Kansas and Rocky Mountain division of the Sinclair Oil & Gas Company, was born in Ohio in 1880 and passed his boyhood on a farm. On graduating from high school at 16 he tried teaching school, but soon abandoned the job for one as a roustabout with the Jennings Brothers Oil Company. Later he dressed tools for the Fisher Oil Company and while still a young man assumed charge of the Corroner, Alford & Rosier oil properties in southeastern Ohio.

In 1904 Mr. Dougherty took a job as driller for Link Small, a drilling contractor in the Mid-Continent Field. The next year he moved to Bartlesville, Okla., and for two years worked for several drilling contractors in that district. He worked on a cleaning out job for White & Sinclair and this marked the beginning of an association with the Sinclair organization which has continued to the present. In 1908 he took charge of a Sinclair lease. Two years later he was made superintendent of the Drumright district of the company. In 1916 he was transferred to the Tulsa office of the company to become assistant general production superintendent.

In 1919 Mr. Dougherty was placed in charge of the Sinclair company's production activities in Texas as general production superintendent. Later he was sent to Wyoming as general production superintendent of that division. Three years ago he returned to Tulsa to assume the position which he now holds. Mr. and Mrs. Dougherty have one daughter, a student in the University of Tulsa. Mr. Dougherty's principal recreation is golf.

PERSONAL PARAGRAPHS

E. A. Dreben, of Tulsa, is in San Antonio, Tex., and will remain for a few weeks.

* * *

J. E. DeLong, representing Waukesha Motor Company, is making a trip through the oil fields.

* * *

J. W. Vandergrift, of Lancaster, Pa., vice president of the Southern Pipe Line Company, visited Pittsburgh, Pa., recently.

* * *

R. R. (Jake) Salter, scout for the Pure Oil Company at San Angelo, Tex., and family, are spending his vacation in Louisiana.

* * *

William Deacon, vice president in charge of oil sales for the St. Louis Surfacer & Paint Company, St. Louis, Mo., spent several days in Tulsa, in connection with several new products which his company is getting ready for the market.

H. M. Craig, assistant zone agent of the Gulf Production Company at Fort Worth, Tex., is spending his vacation in the Rio Grande Valley.

* * *

M. Frank Yount, president of the Yount Lee Oil Company, Beaumont, Tex., has been spending several weeks on a vacation trip in Colorado.

* * *

F. M. Kent, of Parkersburg, W. Va., assistant superintendent of the Eureka Pipe Line Company, spent several days in Pittsburgh, Pa., recently.

* * *

Henry N. Wade and Louis Weiss, engineers with the Stearns-Roger Manufacturing Company, of Denver, Colo., are working in the Shreveport, La., division.

* * *

L. C. Turman, of Fort Worth, Tex., has been spending some time in San Antonio and Southwest Texas. Mr. Turman opened the Church-Fields Pool in West Texas.

* * *

Erich Kuehnle, consulting geologist of Houston, Tex., has been making an inspection trip over Southwest Texas following a similar trip over parts of West Texas.

* * *

James L. Taylor, president of the Taylor-Link Oil Company at San Angelo, Tex., and family, are spending a vacation on the Gunnison River in Colorado, near Cibola.

* * *

Walter E. Anderson, vice president and general manager of the Old Dutch Refining Company, of Muskegon, Mich., has moved his family to Muskegon for the summer.

* * *

H. S. Bryant, of the geological department of the Skelly Oil Company at Tulsa, has been making a visit at the San Angelo, Tex., office and touring the West Texas fields.

* * *

J. A. Kammerdiner has returned to his home at Brea, Calif., following an absence of several weeks, during which time he visited Pennsylvania and other points in the East.

* * *

Frank E. Lee, assistant credit manager of the Union Oil Company of California, has been promoted to the position of general credit manager succeeding C. W. Reeder, deceased.

* * *

R. G. Beentel, who has been field superintendent of the Dixie Oil Company in the Muskegon Field for the past year, is now in charge of all development work throughout Michigan.

* * *

W. Chappell Davis, district land man for the Shell Petroleum Corporation at San Angelo, Tex., met his family in Shreveport, La., where they will journey to Hot Springs, Ark., for a visit.

* * *

T. C. Towl, of Pittsburgh, Pa., superintendent of the Southwest Pennsylvania Pipe Line Company, is spending his vacation with his parents on Shelter Island, New York. Mrs. Towl accompanied him.

* * *

A. M. Donoghue, vice president of the Texas Pipe Line Company, Houston, Tex., accompanied by Mrs. Donoghue, is on a month's visit in the East. They made the trip from Galveston to New York by water.

* * *

Glenn D. Robertson has resigned from the geological department of the Associated Oil Company to become affiliated with the Cities Service Company, which, it is reported, contemplates aggressive development work in California.

* * *

H. S. Tullis, of the land department of the Humble Oil & Refining Company, has been transferred from the Houston offices to McAllen, Hidalgo County, where he will be in charge of the offices recently opened there for work along the Rio Grande Valley.

* * *

C. D. Fletcher, paleontologist in the Gulf Refining Company's geological department at Shreveport, La., has been transferred to Jackson, Miss., where his permanent headquarters have been established. B. W. Blanpeid, geologist, has been in Mississippi for the company for the past five years and E. F. Warren, Jr., scout in the geological department, has been there three years.

Linn K. Park, secretary and treasurer of the Portable Rig Company, Inc., spent several days in Tulsa in connection with his company's new combination rotary and cable tool drilling outfit.

* * *

L. C. Roberts, Jr., geologist with the Southern Crude Oil Purchasing Company at Fort Worth, Tex., has been transferred to the San Antonio office where he will assist Kenneth D. Owen.

* * *

Gray I. Morriss, formerly with the American Radiator Company in the Mid-Continent Field, and well known among oil men, was married July 15 at St. Louis to Miss Helen Cecil Hannon. They will make their home in Titusville, Pa.

* * *

W. F. Weichers, superintendent of Pure Oil Company operations in Michigan, spent several days in Muskegon where the company is reported to be establishing a complete set of offices for representatives of the land and geological departments.

* * *

Dr. H. P. Bybee, formerly with the Dixie Oil Company at San Angelo, Tex., now geologist and mineralogist for the board for the lease of University of Texas lands, and Mrs. Bybee and children are visiting relatives in Bloomington, and other places in Indiana.

* * *

Col. M. M. Walsh, superintendent of the Louisville Gas & Electric Company, Louisville, Ky., is spending his vacation in the wilds of Dennis Island, Sans Souci, Ontario, Canada, where he reports the fishing "very good." He is accompanied by D. T. Flynn, of Oklahoma City, Okla.

* * *

Ernest L. Hughes, head of the Hughes Oil Company, of Chicago, and vice president of the Old Dutch Refining Company, of Muskegon, Mich., visited the latter company's plant now being constructed in the Muskegon Field. Mr. Hughes has just returned from a six weeks' trip to Europe.

* * *

Ralph B. Roark, superintendent for the northern division of the Shell Petroleum Corporation, and his family, have just returned to Tulsa from a 30-day vacation and fishing trip at Detroit Lake, Minn., where Mr. Roark reports the fish are biting in good shape but only makes claim that he caught some four pounders.

* * *

Randolph F. Wheless, scout for the Gulf Production Company in the Southwest Texas territory, and Miss Alice Williamson, of Houston, were married at Brenham, Tex., on the anniversary of the marriage of the parents of the bride and in the same church and by the same minister. They will live in Lockhart, Tex.

* * *

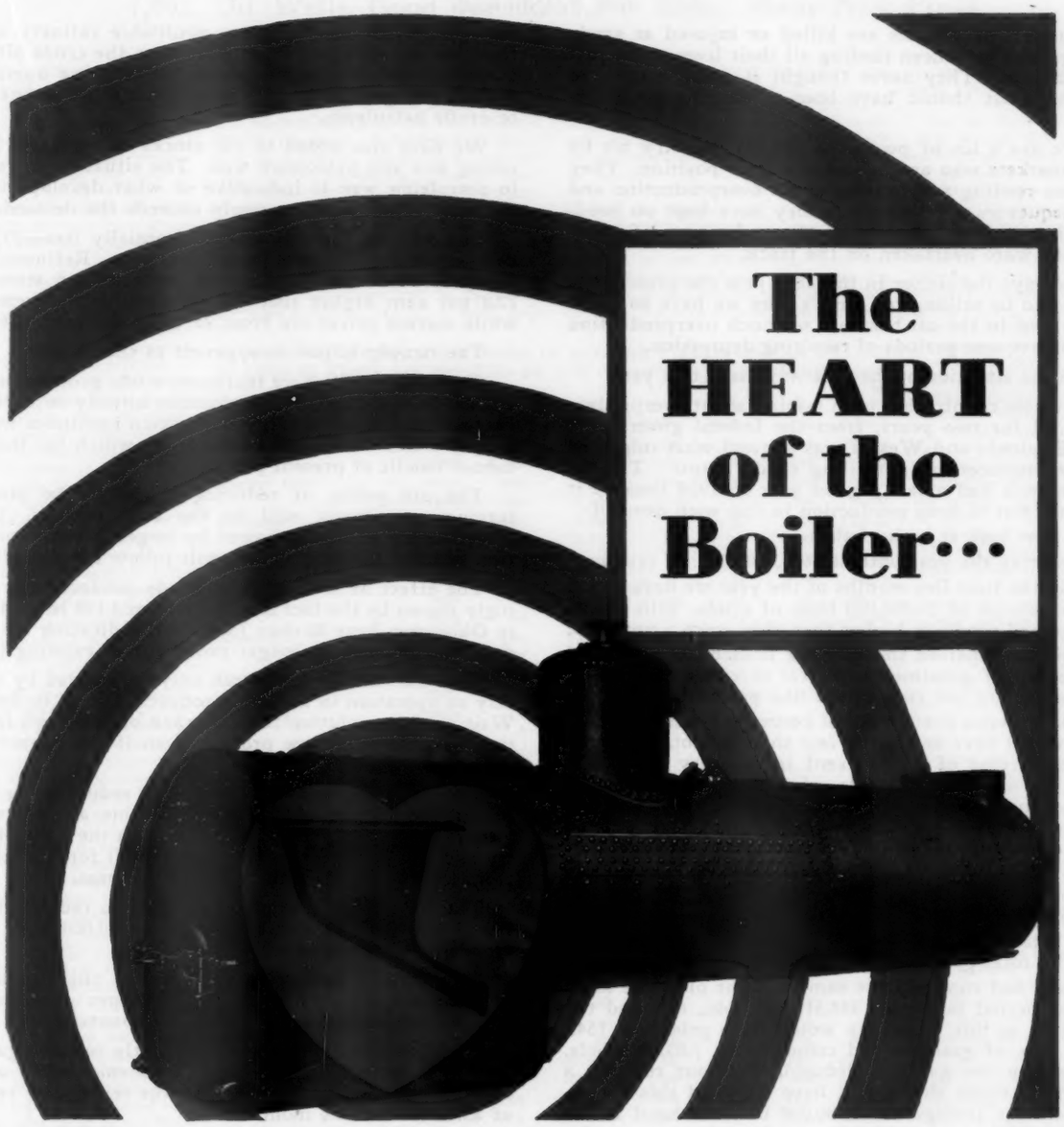
D. Eugene O'Brien is in San Antonio, Tex., called back from Colombia, South America, by the sudden death of his wife. Mr. O'Brien had been in Colombia superintending drilling and development work for the Leonard Development Company. William Leonard of Los Angeles, Calif., passed through San Antonio recently en route to Colombia to continue the work for the company there in place of Mr. O'Brien who will not return.

* * *

Wesley D. Martin, of the H. L. Doherty Company, at Tulsa, has been transferred to Shreveport, La., to become service manager of the Arkansas Natural Gas Corporation succeeding Paul F. McBride, recently promoted to general manager of the Southern Cities Distributing Company, retail agency of the Arkansas Natural Gas Corporation. As service manager, Mr. Martin will have charge of the purchasing, warehouse, transportation and telephone departments.

* * *

W. C. Trout, vice president and general manager of the Lufkin Foundry & Machine Company, is touring the oil fields of the West Coast and incidentally getting acquainted with the new daughter acquired by virtue of the recent marriage of his son Edward, district manager for Lufkin, in Los Angeles. The young lady, before her marriage to E. P. Trout was Miss Kaye Wessling, daughter of a prominent Los Angeles family. On returning to Lufkin Mr. Trout intends to visit the New York office of the company and make stop-overs in Chicago, St. Louis and Tulsa. Mrs. Trout is accompanying Mr. Trout.



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WORLD'S OLDEST AND LARGEST MANUFACTURERS OF OIL FIELD EQUIPMENT

The Last Half of the Year

By W. T. ANDERSON

Thousands of persons are killed or injured at grade crossings who have been reading all their lives about just such accidents. They never thought it could happen to them and what should have been a warning went unheeded.

There are a lot of people in the oil industry hit by falling markets who are in just the same position. They have been reading and hearing about overproduction and its consequences for years, but they have kept on heedlessly disregarding the signs to "Stop, Look and Listen" until they were overtaken on the track.

It's always the sinner in the next pew the preacher is supposed to be talking to. That's why we have so many sinners; and in the oil business so much overproduction and such frequent periods of resulting depression.

Take the situation at the half-way mark this year.

The whole country has been talking about overproduction of oil for two years, from the federal government down. Seminole and West Texas showed what might be done by producers in curtailing crude output. The refining branch had a fairly good year in 1928 because it made an effort to keep production in line with demand.

And now look at both of them.

We started the year with 485,401,000 bbls. of crude.

Yet in the first five months of the year we have added a further excess of 24,860,000 bbls. of crude, with stocks of all refined products higher than they were a year ago.

In the same period the refining branch has increased the recovery of gasoline per barrel of crude to 43.1 per cent against 40.2 per cent in the like period last year.

With the same percentage of recovery as last year the supply would have been little less than the total demand. But the increase of 2.9 per cent in recovery meant the production of 11,497,000 bbls. of extra gasoline in the first five months of the year and this, it should be remembered, did not include natural gasoline sold outside of refineries, not accounted for in government reports.

This 2.9 per cent gain in recovery may not appear much, but in terms of crude consumption it meant a saving of 29,000,000 bbls. or about 160,000 bbls. a day.

Our total increase in demand for crude was 41,859,000 bbls. The total gasoline demand was 162,173,000 bbls.

If they had run only the same amount of crude as in the same period last year, 358,519,000 bbls., and had the same yield as this year they would have produced 154,521,000 bbls. of gasoline and come within 7,652,000 bbls. of supplying the gasoline demand. Without running a barrel more crude they could have supplied this difference from the storage of 33,000,000 bbls. on hand at the beginning of the year and it would have been better for everybody concerned.

Instead they ran 396,443,000 bbls. of crude or 37,924,000 bbls. more than in the same period the year before, and as a result gasoline supply exceeded demand by 11,582,000 bbls., put into storage between January 1 and May 31.

This situation is directly reflected in the weakness in the market which has become apparent.

It is perfectly plain that the industry in the United States could have got along without adding to its operations last year since the increased efficiency in refining plants would have provided for the greater part of the increased demand for gasoline and the principal products. Some withdrawals could have been made from storage which would have been a favorable development.

The heavier crude runs to stills not only brought about an excess supply of gasoline, but prevented readjustment of the markets for fuel oil and gas oil which have been weak since early in 1928.

Not enough people in the oil industry realize the significance of the low fuel oil and gas oil prices. It has been pointed out from time to time that cheap fuel oil and gas oil not only prevent profitable refinery operations but are also a constant menace to the crude oil situation because as charging stock for cracking operations fuel oil and gas oil are in a very direct sense competitors of crude petroleum.

We have also added to our stocks of kerosene, lubricating oils and petroleum wax. The situation in respect to petroleum wax is indicative of what develops in the refining industry when supply exceeds the demand.

The demand for wax was substantially less—30.4 per cent—than for the same period last year. Refiners, however, increased their output 6.9 per cent and storage is 72.8 per cent higher than at the same date a year ago, while market prices are from 25 to 50 per cent lower.

The remedy is just as apparent as the disease.

Since June 1 we have increased crude production over 100,000 bbls. a day, with production already in excess of current requirements. If this situation continues we will simply create additional excess crude which the industry cannot handle at present prices.

The old policy of reducing prices to the point of forcing curtailment will be the only remedy. Lower priced crude will be followed by larger gasoline production and the gasoline market will follow the crude.

The effect of low prices on crude production is strikingly shown by the fact that there were 4,170 less oil wells in Oklahoma June 30 than January 1, indicating the abandonment of wells no longer profitable at existing prices.

This starvation remedy can only be avoided by voluntary co-operation in keeping production down to demand. Waiting for a solution to be worked out through legislation has proved a slow process, even if there were hope of ultimate success.

The practical remedy would be a reduction in crude production of from 150,000 to 200,000 bbls. a day if we are to have a sound economic adjustment in the entire industry and bring about a condition that will force a reaction from the present gasoline market weakness.

The really effective plan would be to reduce production 150,000 bbls. a day and withdraw 50,000 bbls. a day from storage if necessary.

The excess is only 5 per cent of the production. Imagine an industry sacrificing 100 per cent through overproduction, yet that is what it amounts to.

Mid-Continent refiners have recently reduced gasoline prices 1¼ cents a gallon. This may seem a minor adjustment, but it means a reduction in the revenue of refiners of $5,000,000 in one month.

As reductions in one area are speedily reflected all over the country a reduction of 1 cent a gallon would mean a loss of $15,000,000 a month in gasoline alone.

There is nothing wrong with the gasoline demand. The increase as shown in refinery shipments for the first five months has been 15 per cent, far in excess of what had been conservatively estimated at the opening of the year. Unfortunately this increase is often misinterpreted through not considering that a 15 per cent increase in demand and a 19 per cent increase in output can mean but one thing, conditions such as have been developing in the height of the present consuming season when the industry ought to be doing its best.

The outlook for the last half of the year is plain enough. What the industry should do is just as plain. Other industries are doing it by avoiding overproduction and stabilizing their markets.

The immediate question is will California do as well as Oklahoma and West Texas in meeting similar conditions?

There are hopes that it will, and this expectation is the most encouraging factor in the prospect.

Initial Production Records Broken

The 11,941 Completions in the First Half of the Year Included 7,002 Oil Wells Good for 3,265,396 Bbls. Many New Pools

By James McIntyre

The number of wells drilled in the United States, the number of oil wells and the total initial production in the first six months of 1929 exceeded that of the same period in 1928.

In all past records of initial production in the first half of the year none of them approached the record of the first half of 1929. Its total of 3,265,396 bbls. from 7,002 oil wells exceeded that of the first half of last year by 151,449 bbls. and 1,248 oil wells.

The big revival of operations in the Pennsylvania grade oil fields, the development of the central and western Michigan fields and the revival in Central Ohio helped materially in swelling the number of completions. There was no attempt at curtailment of operations in the territory east of the Mississippi River. In the Mid-Continent fields it was otherwise. Drilling was held down in Oklahoma and Texas by the fear of overproduction and of lower crude oil prices.

The Seminole area in Oklahoma, which, had there been a general shortage of crude, would have been subjected to a drilling campaign of gigantic proportions, was held down throughout the half-year period, and the same may be said of the great fields in West Texas. Whole areas known to be large potential producers were entirely idle or subjected to little drilling, having been held back because they would have made a bad situation worse.

The Yates and the Hendricks areas in West Texas were sparsely drilled considering their wealth of buried petroleum and only a few more wells were completed in the whole West Texas territory than in the first half of last year.

The average initial production of the oil wells in that territory was reduced from 4,855.46 bbls. per well to 3,308.57 bbls. per well. It must be remembered that in West Texas the figures given as initial production are misleading in that they do not represent actual initial production in the prorated fields, but are estimated potentials based on only a one-hour gauge when the wells come in. In all the other fields listed in the accompanying table the initial production given is the actual first 24-hour oil output.

California was busier than in the first half of last year and its oil wells were greater in number and their average production per well as 1,493.39 bbls. against 498.58 bbls. in the first half of last year. Increased work and greatly increased initial production are also noted in the Texas Panhandle and Southwest Texas. Kansas completed fewer wells but they were larger initial producers, on an average, than in the same period in 1928.

The greater Seminole area in Oklahoma continued to be the most active spot in Oklahoma. At the beginning of the year the Mission Pool was in the early stage of development and St. Louis-Pearson and Little River areas were still busy spots. In the course of the six months the three areas named, together with Maud, and a lot of wildcatting which opened new pools at Asher, in Pottawatomie County, and Sasakwa in Seminole County, along with scattered extensions, were responsible for the maintenance of much drilling activity. At the close of the half year the greater Seminole pools were pretty well drilled up on inside locations but the leases around the new discoveries were being tested for further extensions, and the wildcatter was active. There was no curtailment other than purely voluntary at the close of the half year.

Discoveries in Kansas

Operations in Kansas were widely scattered. The central and western parts of the State were tested as they never were before and the results in the first half were so satisfactory that the development can be said to have barely started. The western half of the State was blocked up by the major Mid-Continent operators to a greater degree than ever before and the big leasing campaign came after a vast amount of core drilling and geophysical work had been done. All of these blocks will be tested in time. New pools were opened in Greenwood, Butler, Sedgwick, Sumner, Ellis, McPherson, Russell, Marion and Trego Counties and showings were discovered in Ness and Edwards Counties. Harvey County gave indications of being a commercial gas producer.

In the neighborhood of Wichita, in Sedgwick County a large oil field developed in the first half of the year, made up of numerous pools, and by the close of the half year it was a major producer. A total of 108 wells were drilled in Sedgwick County, of which 69 were oil wells with a total initial production of 55,667 bbls. Thirty-nine failures were reported. A new Wilcox sand pool was opened in Sumner County just over the line from Grant County, Oklahoma. Only one well had been completed by the close of the half year, others were drilling on both sides of the state line.

Texas' New Pools

In the West Texas Fields new pools were opened including the O'Brien Pool in Winkler County; Shipley or Hayzlett, in southern Ward County; Leck, in northern Winkler; Pecos Valley, in Pecos County; Stephens, in Fisher County, two pools in Jones County; a small pool in Reagan County, and numerous pool extensions. Promising showings were numerous in the territory and these will warrant further exploratory work.

The North Central Texas area was busy. It is the "poor man's" oil field of the present, as oil lies at shallow depths in many places in the score of counties that make up that division. It is a "spotty" territory and the dry hole percentage is high, in fact there were more dry holes than oil wells drilled in the first half of the year in that area, but the shallow pay sands yield good wells, the average initial production in the first six months having been 83.81 bbls. per oil well.

Gray County in Major Class

In the Panhandle Field, Gray County was outstanding in importance. A rich producing area was opened between the Bowers and the Lefors Pools and one well on the Jackson ranch, Section 88, Block B-2, H.&G.N. Survey, came in at more than 14,000 bbls. from granite wash at a total depth of 2,963 feet. Other wells of 3,000 bbls. and upwards were found, and it is believed the possibilities of Gray for future large production are very bright. The oil wells in the Panhandle averaged 698.22 bbls. in initial production as against 438 bbls. in the first half of last year.

Rocky Mountain Uneventful

The Rocky Mountain fields had rather an uneventful year, the real interest being centered in Lea County, in southeastern New Mexico, which continues an unknown quantity. There are very good reasons for the opinion that Lea County will develop one or more great pools, but up to the present no such pool has been assured. Important indications of pools were found in different parts of Lea County in the first half of the year, and the territory was considered important enough to run a pipe line from Winkler County, Texas, northward to the Jal area in Lea County, and to erect large storage tanks. The Pondera Pool in Montana was further developed.

Great Gas Territory

The Louisiana-Arkansas division was featured principally by its natural gas discoveries and the construction program for carrying the vast gas production of the two states to distant cities far removed from oil or gas fields. Gas lines were in course of construction to Memphis, Birmingham, St. Louis and other far away cities.

Important Bruner Field

Southwest Texas had an unusually good year in oil. The Joe Bruner Field in Caldwell County, not far from theLuling Field, proved a larger producer than Luling ever did. Six hundred thirteen wells were completed in the various counties making up the Southwest Texas division. Of these 318 were oil wells with a total initial production of 117,118 bbls. In the first half of last year only 69 oil wells were completed with an initial production of 8,747 bbls. This year's crop of oil wells averaged 368.30 bbls. in initial production as against 126.75 bbls. last year. Much work was done in the Mirando district, where numerous pools were discovered in the course of the half year.

In the fields east of the Mississippi River, Michigan stood out in the first

(Continued on Page 195)

SUMMARY OF COMPLETED WORK IN ALL THE FIELDS OF THE UNITED STATES IN FIRST SIX MONTHS OF 1929 AND IN SAME PERIOD OF 1928

	First 6 mos.	Comp.	Initial prod.	Dry holes	Gas wells	Oil wells	Av. in. prod. (bbls.)
Eastern	1929	2,495	11,987	199	312	1,984	6.04
	1928	1,742	14,215	170	348	1,224	11.61
Central Ohio	1929	609	5,180	182	249	178	29.10
	1928	150	1,232	45	75	30	41.07
Michigan	1929	248	79,867	63	17	168	475.40
	1928	35	2,112	11	3	21	100.57
Lima	1929	73	1,058	18	11	44	24.09
	1928	73	2,152	11	12	50	43.04
Indiana	1929	65	663	26	16	23	28.83
	1928	88	1,413	31	12	45	31.49
Kentucky	1929	616	15,635	198	33	385	40.61
	1928	601	19,369	195	14	392	49.41
Tennessee	1929	6	120	2	0	4	30.00
	1928	50	1,988	17	6	27	73.61
Mississippi	1929	16	.....	16	0	0	....
	1928	4	.....	3	1	0	....
Alabama	1929	1	.....	1	0	0	....
	1928	1	.....	1	0	0	....
Illinois	1929	85	3,311	34	1	50	66.22
	1928	53	620	17	5	31	20.00
Kansas	1929	489	78,523	206	38	245	320.50
	1928	624	68,531	225	59	340	201.56
Oklahoma	1929	1,740	488,960	618	149	973	502.52
	1928	1,821	328,155	657	292	872	376.32
North Central Texas	1929	1,931	75,342	953	79	899	83.81
	1928	1,917	89,439	896	72	949	94.24
West Texas	1929	583	1,273,800	192	6	385	3,308.57
	1928	549	1,947,039	140	8	401	4,855.46
East Central Texas	1929	66	2,514	58	2	6	419.00
	1928	33	335	30	0	3	111.67
East Texas	1929	48	40	11	35	2	....
	1928	80	42	20	56	4	10.50
Texas Panhandle	1929	223	99,846	26	54	143	698.22
	1928	194	38,981	50	55	89	438.00
Gulf Coast	1929	782	258,222	306	14	462	558.94
	1928	706	226,981	305	7	394	576.09
Southwest Texas	1929	613	117,118	228	67	318	368.30
	1928	302	8,747	166	67	69	126.75
North Louisiana	1929	231	5,414	74	114	43	125.88
	1928	300	7,891	124	140	36	219.19
Arkansas	1929	137	15,255	70	13	54	282.5
	1928	131	55,443	64	5	62	894.24
Montana	1929	138	7,481	22	13	103	72.62
	1928	131	10,496	43	24	64	164.00
Wyoming	1929	39	9,870	8	1	30	329.00
	1928	105	7,586	45	4	56	135.47
Colorado	1929	46	4,464	22	1	23	194.06
	1928	68	6,534	31	1	36	181.61
New Mexico	1929	51	4,364	36	8	7	623.43
	1928	38	864	24	4	10	86.4
Utah	1929	3	.....	3	0	....	....
	1928	6	.....	3	3	....	....
California	1929	607	706,362	134	....	473	1,493.39
	1928	653	273,782	104	....	549	498.59
First 6 months	1929	11,941	3,265,396	3,706	1,233	7,002	466.35
First 6 months	1928	10,455	3,113,947	3,428	1,273	5,754	541.18
Difference		1,486	151,449	278	40	1,248	74.83
First 6 months	1927	12,738	2,340,422	3,384	1,101	8,253	283.58
First 6 months	1926	12,995	1,317,432	3,644	1,067	8,264	157.86
First 6 months	1925	12,080	2,666,746	3,069	1,085	7,926	336.46
First 6 months	1924	10,940	1,707,093	2,457	1,114	7,369	231.66
First 6 months	1923	13,013	2,587,763	3,014	1,108	8,801	294.03

Many New Pools in Permian Basin

Notwithstanding a Great Curtailment in Drilling West Texas Operators Continue to Develop New Production

By L. E. Bredberg
Staff Correspondent, West Texas Fields

A resume of the last six months' activities in the Permian Basin of West Texas shows a greatly marked decrease in drilling in the various fields, especially the Yates Pool, Pecos County, and the Hendricks Pool in Winkler County. The previous six months and year showed the fields drilling at a frantic pace, with several new pools discovered in that period. The O'Brien Pool, southern Winkler County; the Shipley or Hayzlett Pool in southern Ward; the Leck Pool in northern Winkler, with a northern extension, the Hendricks Pool; the Pecos Valley Pool in northern Pecos County; the Stephens Pool in Fisher County, and two new pools in Jones County, with a small pool opened by the Skelly Oil Co. in Reagan County, 4 miles south of the town of Best, with extensions in the Howard County fields marked the main new pools and events of 1928.

The overproduction scare cast a great shadow over West Texas in the latter part of last year, and the plan of proration had already stepped in to curb drilling and check production to a minimum, causing the fields to take on a rather gloomy atmosphere, and remain becalmed. The first three months of 1929 found the Basin in a rather sad state, as far as operations were concerned, but the demand for crude by refineries in Louisiana and Arkansas, where production was steadily declining, and a growing demand for the sulphur crudes of West Texas, with a decline in production of "sweet" oil in Mid-Continent fields all helped to cast a brighter appearance on the Permian Basin, and buoyed up the hopes of the operators in that district. An increase in prices for the sulphur crude could be glimpsed in the distance, many making guesses as to just when a rise would come, although when it did reach this area a good many were surprised, and had not foreseen the possibility in time to make profitable contracts for oil in storage or for future production. As a result of this surprise many small refineries and buyers were at a loss as to where they would be able to gain connections and obtain enough from storage to fulfill their needs. At the present writing one of the pipe line companies having an outlet to the Gulf is having difficulty in obtaining enough oil for its demands, and it no doubt will not run to full capacity for some time, if it ever does, for the trunk lines which have been running out of this district have not all run to capacity at any time.

With a big slump in production in other parts of the United States, which isn't likely, and a still greater demand for West Texas crude, the pipe lines serving this district might possibly run to capacity, but such an exigency does not look quite probable at present, and it is figured new pools will have to be discovered in order to aid the recent need of more crude from this district for the lines serving it.

Discoveries in Pecos County

One of the latest promises of such a pool has been discovered by the Taylor-Link Oil Co. in its No. 1 University, located 18 miles southwest of the Yates Pool in Pecos County in Section 30, Block 16. This is shallow production, as in the Yates Pool, the pay having been encountered at 1,628 feet, but it is a much smaller well than the majority of those found in the other pool, and so far does not add to the fear of overproduction. Other wells are now drilling in this new pool, and it will soon be known just what rating can be placed on the newly discovered area. The Taylor-Link well opened the pool during the fore part of June, this year. The gravity of the oil is about the same as that in the Yates Field, 30.0 degrees A.P.I. This field can be said to be defined on the east by a dry hole in Section 29, Block 16, University Survey, 1 mile distant, and is also defined on the northwest, 2½ miles by another well that is shut down at 1,510 feet without any oil shows. Six miles to the west the pool is defined by another well that is down 4,407 feet, but 4 miles to the south Buell & Hagan have a small well in their No. 1 University, located in Section 36, Block 18, University Survey. This well topped the pay, sandy lime, at 1,320 feet and is producing 25.5 corrected gravity oil, therefore the pool has possibilities in that direction and to the north, possibly running to the west for a short distance.

This new Pecos County Pool looks much better than the one opened last November by the Pecos Valley Oil Co. in Section 22, Block 10, H.&G.N. Survey, in the northern part of the county, for that pool has only two producers to date, making a total of only 62 bbls. daily. The discovery well of this pool has been deepened from 1,630 to 1,653½ feet, and the second well is now being prepared for deepening, but deepening of the first well did not increase the production, and it is doubtful if the second will be helped.

Another shallow threat of the year, in Pecos County, was opened by the Phillips Petroleum Corp. in its No. 1 Courtney (Pryor) in Section 78, Block OW, T.&M.R.R. Survey, 9 miles west of Fort Stockton, when it topped a pay formation at 1,345 feet in sand and pumped 378 bbls. in 48 hours. The gravity of the oil is 22 degrees, corrected. The well started slumping so the company decided to deepen to below 4,000 feet, where it was to go when the well was spudded in. If no other shows are encountered, the well will have to be plugged back and produced from the pay at 1,345 feet. This new discovery does not look especially promising, and it did not cause much interest when it started showing up as a producer, and has failed to create much excitement since producing several hundred barrels.

Perren and others opened up a gas well of 18,000,000 cubic feet in their No. 1 Eaton, located 1 mile east of the Pecos Valley producers, in Section 27, Block 3, H.&T.C. Survey, seemingly defining this pool on the east. Gas sand was encountered at 1,480-90 feet and the well shut down and the gas shut in at 1,506 feet. Several individuals were dealing with the owners for the gas and were intending piping it to Fort Stockton to supply that town, but the contract was not consummated, and the well is standing, shut in.

In April J. M. Bashara & Sons encountered gas in their No. 1 fee, located in the SW of Section 17, Block B-3, Public School Lands, Winkler County. It topped the gas sand at 2,481 feet and was completed at this depth gauging 19,340,000 feet. It is located 4 miles east of the Hendricks Pool, and is 2½ miles north of V. T. Bolin's No. 1 Brown & Altman in Section 4, Block B-5, and is producing around 12 bbls. per day.

The eastern side of the Permian Basin was promised a pool early in April of this year when the Mid-Kansas Oil & Gas Co.'s No. 1 Lackey, in the SW cor. of Section 272, Block 1-A, H.&T.C. Survey, Coke County, topped a pay at 3,755 feet and the hole started filling with 39 gravity oil. Twenty-five thousand feet of gas was also showing up with the oil. But prospects of this well and a pool in the county faded away when the well was deepened and did not pick up an increase. No other showings have been encountered and the last report showed the well drilling at 3,975 feet.

No doubt one of the best and most interesting discoveries of the first six months of the year was brought in in Glasscock County on May 1, when the World Oil Co. encountered a showing of oil at 2,350-56 feet, and a good pay at 2,385 feet where the hole started filling with oil. It was bottom holed at 2,385 feet, and after being put on the pump made 275 bbls. the first 24 hours. Later rods and tubing were pulled and it was deepened to 2,398 feet, where it is standing at present pumping around 175 bbls. daily. The Humble Pipe Line Co. laid a 4-inch gathering line from its pumping station south of the Roberts Pool in Howard County, to this well, and is taking the production.

Discovery in Glasscock

Although Glasscock County had production in the extension of the Howard County Pool, the World well opened up the first individual pool in the county. Acreage changed hands quite rapidly after the first showing was encountered, and several tests were staked out on adjoining acreage. Six tests are now being drilled in this area, one of them to be a deep test, around 8,000 feet, by the California Co. in Section 46, Block 33, Township 2s. This test is to seek all the pay horizons found in the Howard and Glasscock County Pools, with the possibility of picking up the deep pay found in Group No. 1's (Continental Oil Co.) No. 1 University in Reagan County, which is producing from a total depth of 8,525 feet after topping a big pay at 8,523 feet. The California test will be watched closely for developments, geologists gaining much knowledge as the well is logged down and samples gathered

WEST TEXAS

Daily Average and Monthly Production First Six Months of 1929

Field and County—	January (bbls.)	February (bbls.)	March (bbls.)	April (bbls.)	May (bbls.)	June (bbls.)	Total 6 mos. (bbls.)
BIG LAKE, REAGAN COUNTY:							
Daily average	18,964	14,201	17,449	18,498	17,694	18,262	
Month	587,889	397,615	540,925	554,947	548,521	547,871	3,177,768
CHALK-SETTLES, GLASSCOCK-HOWARD COUNTIES:							
Daily average	45,073	43,065	42,074	42,529	39,466	44,195	
Month	1,397,278	1,205,809	1,304,307	1,284,857	1,223,432	1,325,849	7,741,532
CHURCH & FIELDS, CRANE COUNTY:							
Daily average	27,287	29,176	28,042	26,824	25,632	24,714	
Month	845,894	816,917	869,301	804,729	794,590	741,416	4,872,847
HENDRICKS, WINKLER COUNTY:							
Daily average	172,141	156,463	171,108	144,799	142,272	142,651	
Month	5,336,362	4,380,977	5,304,360	4,343,975	4,410,456	4,279,547	28,055,677
M'CAMEY-TAYLOR, UPTON COUNTY:							
Daily average	10,586	9,722	6,659	10,298	9,605	11,780	
Month	328,175	272,202	206,426	308,934	297,757	353,992	1,767,486
M'ELROY, CRANE COUNTY:							
Daily average	12,947	12,631	12,473	12,601	12,704	11,410	
Month	401,366	353,684	386,652	378,037	393,825	342,312	2,255,876
WADDELL, CRANE COUNTY:							
Daily average	22	27	43	33	52	47	
Month	689	766	1,334	1,004	1,595	1,410	6,798
SKELLY, REAGAN COUNTY:							
Daily average	69	117	.....	.....	.....	.....	
Month	2,139	3,273	.....	.....	.....	.....	5,412
HARDING, HOWARD COUNTY:							
Daily average	15	15	15	12	13	15	
Month	466	420	465	350	400	447	2,548
IRA, SCURRY COUNTY:							
Daily average	24	26	22	22	22	28	
Month	746	725	673	673	672	838	4,328
POWELL, CROCKETT COUNTY:							
Daily average	2,010	1,763	2,142	2,155	2,086	2,022	
Month	62,318	49,357	66,409	64,645	64,671	60,666	368,066
STEPHENS, FISHER COUNTY:							
Daily average	1,085	962	1,082	949	958	876	
Month	33,637	26,943	33,537	28,479	29,711	26,279	178,586
WESTBROOK, MITCHELL COUNTY:							
Daily average	2,552	2,721	2,451	2,600	2,488	2,668	
Month	79,103	76,192	75,987	78,000	77,129	80,040	466,451
WHEAT, LOVING COUNTY:							
Daily average	319	404	605	616	620	641	
Month	9,901	11,320	18,768	18,484	19,206	19,236	96,915
PECOS COUNTY:							
Daily average	74,007	84,629	90,317	90,857	99,848	105,511	
Month	2,294,223	2,369,610	2,799,867	2,725,706	3,095,273	3,165,335	16,450,014
WARD COUNTY:							
Daily average	.....	.....	.....	232	1,066	1,407	
Month	.....	.....	.....	6,964	33,053	42,210	82,227
ECTOR COUNTY:							
Daily average	5	9	3	.....	.....	3	
Month	155	256	93	.....	.....	91	595
Daily average	367,108	355,931	374,487	353,325	354,527	366,230	362,061
Month	11,380,341	9,966,066	11,609,104	10,599,784	10,990,292	10,987,539	65,533,126
First six months 1928	8,821,701	9,036,190	10,380,877	11,149,642	9,873,668	8,947,700	58,209,778
First six months 1927	2,126,352	1,857,800	2,331,510	2,752,080	3,514,935	2,333,150	15,916,827

on the different formations encountered in the hole.

In the same district, a little farther to the east, the Simms Oil Co. created considerable excitement when its No. 1 Ellwood, located in the SE of Section 29, Block 18, S.P.R.R. Survey, southern part of Mitchell County, topped a gas sand at at 598-606 feet and encountered 5,000,000 feet of gas. This is a rank wildcat, and many eyes were turned in this direction, but when the well was carried on down it failed to pick up further interesting showings. It is now drilling below 4,400 feet. The Westyde Investment Co. is drilling a test in this area, in Section 38, Block 16, and the Republic Production Co. is drilling one in Section 20, Block 17, S.P.R.R. Survey, giving this immediate area a fairly good testing.

New Production in Irion

A late producer in a wildcat in the Basin was discovered in Brown & Fox's (formerly Kimbrough & Flinchbaugh) No. 1 Tankersley, located 160 feet from the north line and 200 feet from the east line of Section 712 of the Ford Willig Survey, 2½ miles southwest of the town of Mertzon in Irion County. This discovery looks better than anything Irion County has previously presented, and it is estimated as good for a 50-bbl. pumper from a pay sand encountered at 1,333 feet. The first showing was struck from 1,318-29 feet, but this was drilled through and at 1,333 feet the hole started filling with 37 gravity oil. The well was shut down 2½ feet in the pay, at 1,335½ feet, and swabbing the first day yielded 75 bbls. Since the sixth, when it started filling with oil, the well has filled one 100-bbl. tank and a 250-bbl. tank, and a third tank of 500-bbl. capacity is now being erected.

In view of the fact that various wells in Irion County, one just 1½ miles southeast of this discovery, have had good showings of oil, the one mentioned pumping about 7 bbls. per day for some time before it was plugged, men in the oil business have been rather sceptical about this new discovery and have thought it the same type as the others, but it looks very much like a fairly good pumper, and that a better method would have to be devised to take care of the production. It is only about a mile from the Orient railroad, consequently the laying of a line to a loading rack on the railroad would take but a short time. Assuming that this will be a commercial producer, the opening of a new pool puts Irion County on the list with the many other counties having producing areas in the Permian Basin, and this new find will no doubt stimulate prospecting in the county to a great extent, the county probably receiving many other tests during the next six months' period.

In Jones and Fisher Counties

Some companies carry Jones and Fisher Counties on their West Texas reports, while still others carry these two counties on their Ranger district reports, consequently it cannot be a mistake to speak of a new pool or new play in these counties in this article. The Texas Company surprised many operators and company men in this sector when it discovered a new pay horizon in its No. 6 Carter, which is located 220 feet from the NE cor. of its lease in Section 13, Block 19, T.&P. Survey, Jones County. It topped the Noodle Creek lime at 2,460 feet, and encountered this new pay at 2,740-43 feet, shutting down at 2,765 feet, where the well was completed for a daily average of 80 bbls. This pay correlates with the pay in the Stephens Pool in Fisher County, and as a result of this strike many other tests in Jones County drilled with the expectancy of picking it up after they had missed the Noodle Creek pay horizon. The Texas Company well seems to be the only one producing in Jones County from the new pay, up to the present time, although other tests have had showings from formations correlating with this one, and the possibilities of others producing from it seem quite likely.

Taylor County seemed destined to have a field in the month of May when the Mid-Continent Oil & Gas Co. picked up a pay formation from 2,450-55 feet in its No. 1 Taylor, located in Section 18, Lot 3, Guadalupe County School Lands, but it did not produce an appreciable amount of oil from this horizon so it was drilled through to a total depth of 3,007 feet. No other showings were picked up on the way down, and the amount of oil in the hole did not increase, so the company plugged back to the 2,555-foot level and shot with 40 quarts and again with 60 quarts, neither one showing any benefit. When it was put on the pump it made 9 bbls. in 24 hours. It was abandoned later as a nonproducer.

New Pool in Crockett County

The latest discovery in West Texas promises to bring forth another field in Crockett County, approximately 12 miles northwest of the town of Ozona and on the Massie Ranch. This test is being drilled by W. A. Moncrief and others in Section 47, Block UV, G.S.&S.F. Survey and encountered a likely looking stratum at 1,417 feet. Drilling three feet into it before being shut down, with 900 feet of oil in the hole, prospects of a new field in this part of the county looked very bright. On the second day it started showing 25,000 feet of gas. On the fourth day it swabbed two hours and the fluid was lowered 200 feet, making 50 bbls. the first hour and 30 bbls. the second.

A peculiar situation rests in this well in view of the fact that the oil show was found below a sulphur water stratum at 1,323-26 feet. The water was cased off with 6⅝-inch casing.

Several dry holes have been drilled all around the well, except on the north and northeast sides. One of the nearest tests was Zoch & Moncrief's No. 1 Todd in Section 35, 2½ miles west. This test had a showing of oil at 1,365 feet, and the showing shot, but failed to make a producer.

Two miles south of the discovery another dry hole was drilled to 2,010 feet in Section 53, and 3 miles southeast the Crockett Drilling Syndicate drilled a "duster" to 3,520 feet, consequently the field, if this well opens up a field, will have to run to the north or north and east, with a possible chance of running to the north and west, but the Young & Donnelly No. 1 Todd in Section 26, abandoned at 1,720 feet, defines the limits in that direction. There is, however, plenty of room for a good sized field in the untested surrounding territory in the other mentioned directions, and after this well is tested and found to be a producer Crockett County will likely see another leasing boom, especially in that section of the county. The showing already made will encourage considerable trading in the area around the well, and there is no doubt that other tests will be started shortly in the vicinity of the show.

The Powell Field in the northwestern part of the county is approximately 17 miles northwest of the Moncrief well, and has been producing since May, 1925. Gravity of the oil in this pool is from 27 to 30, and the pay is encountered from 2,600 to 2,700 feet, on an average. It has 43 producing well with a daily average of around 2,000 bbls.

Many tests have been drilled all over Crockett County, many of them getting good oil showings while others encountered several thousand feet of gas, while still others obtained both oil and gas showings. One of these tests is the W. W. Donnelly & Young's No. 1 Middlebuster, located in Section 11, Block 9, D.&S.E. Survey, about 5 miles northwest of the Moncrief No. 1 Massie. It encountered 7,000,000 feet of gas this year while drilling at 1,663 feet. The well has been shut down for quite a period, and it is not known what the intentions of the owners are in regards to completing it.

World's Deepest Well

Last year saw the completion of Texon Oil & Land Co.'s No. 1 University, Reagan County, the world's deepest producing well, located in the heart of the Big Lake Field, but the last six months have been most interesting in regard to the weekly climb in production in this well. Hardly a week passed without seeing the daily production reaching another peak in both oil and gas, and the last peak reported was reached on July 8 when it raised itself to 2,682 bbls. of oil with 24,714,000 feet of gas. This is not the greatest amount of gas, as during the previous week it gauged 25,177,000 feet on one day. As the well is soaring to new "highs" every week, the following six months will no doubt see other interesting peaks set, probably reaching a much greater height.

As West Texas covers such a vast amount of territory, and the possibilities of discovering and opening up new pools is unlimited, the next six months will no doubt see other pools added to the production list. The increase in the price of the sulphur crude found in this district has raised the spirit of wildcatters, and the coming months will likely see an increase in the number of wildcat tests being put down in the many counties, and as has happened in past six months, and the previous years of "wildcatting" in this section, many of the tests are bound to hit the pay and open up more fields. West Texas has been closely watched by all operators and companies since the first field of the district was discovered in Mitchell County in 1920, and it will continue to be watched quite closely, more especially if there is a greater pinch for oil from this section of the country, and if there is another rise in the price of this crude.

Deep tests are another factor of interest in this area, and it is quite probable that many such tests, as the Texon's (Continental Oil Co.) No. 1 University, Reagan County, and the four deep tests being put down by the Big Lake Oil Co. in the Big Lake Field, and the California deep test in Glasscock County, will be drilled in the coming months, to test the deeper formations of the Permian Basin. And it is quite plausible to think that some of these extremely deep tests will strike the Texon pay formation and bring in other good wells of its type.

WEST TEXAS
Completions by County First 6 Months 1929

County—	Comp.	Prod.	Dry	Gas
Andrews	1	0	1	0
Borden	4	0	4	0
Brewster	2	0	2	0
Coke	3	0	3	0
Concho	4	0	4	0
Crane	11	1,937	1	10
Crockett	13	130	10	0
Culberson	1	0	1	0
Dawson	1	0	1	0
Edwards	1	0	1	0
El Paso	1	0	1	0
Fisher	13	258	11	0
Gaines	1	0	1	0
Garza	3	70	1	0
Glasscock	12	262	10	0
Howard	133	70,753	13	0
Irion	11	0	11	0
Jones	50	5,223	20	0
Loving	5	6,633	0	0
Lynn	1	0	1	0
Menard	4	0	4	0
Midland	1	0	1	0
Mitchell	11	196	7	2
Nolan	4	0	4	0
Pecos	62	548,803	24	2
Presidio	3	0	3	0
Reeves	2	0	2	0
Reagan	17	4,327	5	0
Runnels	7	0	7	0
Schleicher	1	0	1	0
Scurry	1	0	1	0
Sterling	1	0	1	0
Stonewall	1	0	1	0
Sutton	2	0	2	0
Taylor	5	0	5	0
Terry	1	0	1	0
Tom Green	8	0	8	0
Upton	7	338	2	0
Ward	11	2,465	2	1
Winkler	163	632,405	15	1
Total 6 months	582	1,273,800	192	6

West Texas Completions

County—	Comp.	Prod.	Dry	Gas
January	112	315,065	19	0
February	115	354,069	28	2
March	110	199,751	33	1
April	88	128,478	37	1
May	94	183,988	50	2
June	64	92,449	25	0
Total	583	1,273,800	192	6
First 6 mos. 1928	549	1,947,039	140	8
Difference	34	672,239	52	2

CENTRAL OHIO LED IN FIELD WORK IN THE OLD CENTRAL WEST AREA

By George A. Whitney

A general review of development work over the various divisions of the Central West Field, indicates that the latter half of 1929 will have to rush the drill to equal the work in the first half, which is the largest in a number of years. The old Lima Field of northwestern Ohio held its own. While 1928 had the rich Murphy Pool in Seneca County, Ohio, to depend on for good production, the first half of 1929 failed to get anything like it until near the close of June, when J. H. Murphy and Sons brought in a well on the Charles B. Miller farm, also in Seneca County, which showed better than 360 bbls., and no doubt will be the forerunner for more active development around Tiffin. This new well is in Pleasants Township, Seneca County. The Murphys are the discoverers of the new pool as well as the old Murphy Pool, in Liberty Township, same county.

The Central Ohio area was one of the busiest spots east of the Mississippi River. It is an old gas-producing area but in the first six months of this year 609 wells were completed as against 150 in the same period last year. The oil wells numbered 178 with a total initial production of 5,180 bbls., as against 30 oil wells and 1,232 bbls. new production in the first half of last year. A total of 249 gas wells completed compares very favorably with the 75 gas completions in the first half of 1928. The Ashland County area was the most active in the field, but Muskingum County supplied the greatest volume of new oil production from a much smaller number of oil wells.

The Michigan Field is reviewed in detail elsewhere in this edition. The State had a great half year in oil. The success of the wildcatter in Michigan brings to mind the prophecy of Tom Percy, one of the best known drilling contractors and oil operators of 30 to 45 years ago. Mr. Percy drilled salt wells in western Michigan in the early days and was always of the opinion that the State would produce oil in the big basin in which it has been so recently found. Jack Brogan, another old-time driller who worked in the Michigan fields decades ago was also a firm believer in Michigan as an oil producing State of the future. There seems no doubt now that other fields than Saginaw, Muskegon and Mount Pleasant will be brought in in the region between Lake Michigan and Lake Huron.

St. Clair County, in western Illinois, led in the field operations in that State in the first half. A score of new oil wells were recorded there with an average initial production of over 100 bbls. to the well. Considerable wildcatting was done in the State with varying results. The dry hole average was rather high, 34 failures having been recorded out of a total of 85 completions.

Indiana had rather a quiet half year compared with the first half of 1928. Some good gas wells were completed and while the oil wells numbered only 23 the initial production of 663 bbls. indicated an average of close to 30 bbls. per well.

CENTRAL WEST FIELDS

Field—	Comp.	Prod.	Dry	Gas	Abd.
Lima	73	1,058	18	11	72
Central Ohio	609	5,180	182	249	0
Indiana	65	663	26	16	47
Illinois	85	3,311	34	1	38
Michigan	248	79,867	63	17	0
First half 1929	1,080	90,079	323	294	157
First half 1928	399	7,529	115	107	337
Difference	681	82,550	208	187	180

Lima Field

Summary of completed wells in the first six months of 1929:

Month—	Comp.	Prod.	Dry	Gas	Old wells abd.
January	8	92	2	1	8
February	11	121	3	2	4
March	6	81	1	1	28
April	16	154	5	3	32
May	11	74	2	2	8
June	21	536	5	2	2
First half 1929	73	1,058	18	11	72
First half 1928	73	2,152	11	12	285
Difference	0	1,094	7	1	213

(Continued on Page 275)

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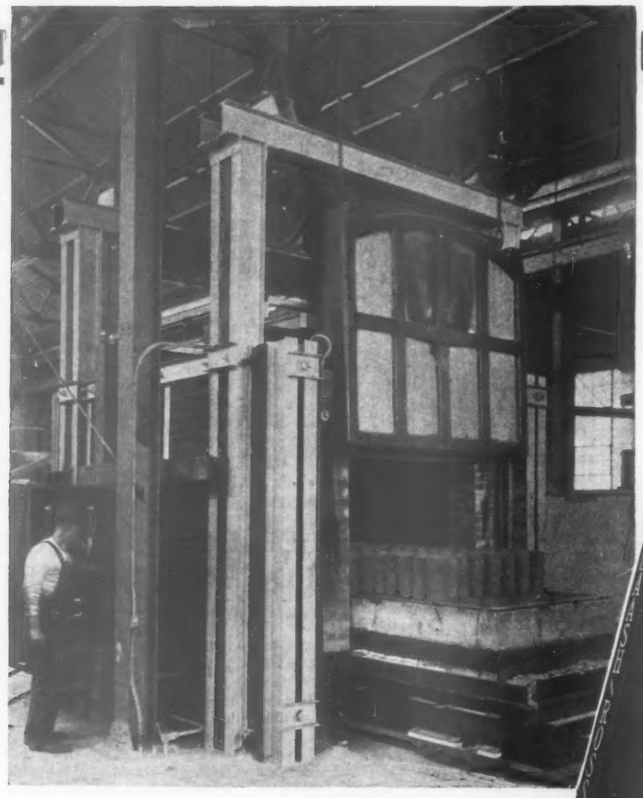

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and Travelling Blocks give increased wire line service, and are strong, safe, easily lubricated!

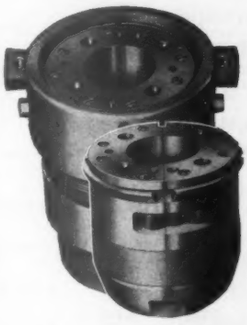
BUILT throughout of structural steel and steel castings, Baash-Ross Hi-Deck Crown Blocks and Travelling Blocks are rigid, safe, and last through years of hard usage. Manganese sheaves 36″ or 48″ in diameter turn on roller bearings, each lubricated individually by Alemite fittings, easily reached, requiring attention only once daily.

Sheaves in crown and travelling blocks run *parallel* to each other, completely preventing side-drag and removing the most frequent cause of rapid wire line wear.

The Baash-Ross Hi-Deck Crown Block may be installed over any pumping block, without interfering with it in any way; and removed at the completion of drilling.

BAASH-ROSS (*Hosmer*) Blowout Preventers

with hinged and automatically latched packing assembly



The packing assembly of the Hosmer Blowout Preventer hangs in the derrick, and at the first warning of dangerous pressure requires only an instant's time for automatically latching around the drill pipe and dropping to its place in the packing head at the top of the surface casing in the cellar.

Setting a coupling or tool joint down on the preventer compresses the rubber packing ring and completely seals the well, or the lip ring on the top of the packing head may be screwed down to hold the pressure as long as necessary.

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Oil and Gas Journal, July 25, 1929

North and Panhandle Texas Revival

New Pools in Many Counties. Gray County Led in New Production. Deeper Producing Zones Discovered

By L. E. Bredberg

Staff Correspondent North Central Texas and Panhandle Fields

The Panhandle and North and Central Texas fields began the year in a rather quiet way, activity having fallen to a low point all over the big division, but all the fields snapped out of their lethargy when the price of crude oil was increased and in the latter weeks of the half year the district was generally active in drilling operations and preparations for more work.

Gray County, in the Panhandle, developed into a field of major importance, producing high-grade crude, and the county, which started off the year with a production of 21,800 bbls., was making over 53,000 bbls. at the close of June.

Big Wells in Gray County

Gray County was the most active area in the Panhandle district, and brought in some of the best wells in its history, many of them over 4,500 bbls. in initial production.

Continental Oil Co.'s (Marland Production Co.) No. 1 Finley-Brown, in the NE cor. of Section 32, Block B-2, H.& G.N. Survey, 2 miles west of the Lefors Pool, or half way between this pool and the Bowers Pool on the west, opened up more territory in Gray County. First gas was encountered at 2,455 feet and an increase was met at 2,550 feet, with an estimated amount of 70,000,000 feet of gas from 2,785-2,815 feet. It topped granite wash at 2,843 feet and started flowing 103 bbls. hourly, but because of paraffin trouble production slumped off to 1,055 bbls. daily. Gravity of the oil was 42.4. This virtually proved up the territory between these two pools, and following discovery many other large producers were added to the immediate area, being largely responsible for the jump in Gray's daily average.

Operators Oil Co.'s No. 3 Jackson, in the NE cor. of Section 88, Block B-2, H.&G.N. Survey, also helped boost Gray County's production when it was completed for an initial production of 7,400 bbls. of 42 gravity oil from a granite wash pay from 2,840-45 feet.

The Wilcox Oil & Gas Co.'s No. 4 Coombs, located in the SW cor. of Section 60, Block 3, I.&G.N. Survey, opened up considerable new territory and made Gray County more interesting and active when it started flowing 800 bbls. daily at a total depth of 2,975 feet. It was immediately offset and other good wells have been completed around it.

The Texas Company's No. 1 Cook-Faulkner, Section 29, Block B-2, H.& G.N. Survey, was another good completion that helped swell Gray County production and boost activities in the pool, and the county in general. This well was completed for 5,008 bbls. flowing from a total depth of 2,865 feet after topping a granite wash pay from 2,855-65 feet, and the Operators Oil Co.'s No. 7 Jackson in the NE cor. of Section 88, Block B-2, same survey, even bettered the company's No. 3, which is in the same quarter of the section. No. 7 came in with an initial production of 14,275 bbls. the first 24 hours from a total depth of 2,963 feet. The pay was encountered at 2,960 feet. Along with this large amount of flow the well gauged 3,000,000 feet of gas, which no doubt had much to do with increasing the well to its large amount.

The Magnolia Petroleum Corp. completed its No. 4 Bowers in the Bowers Pool for an initial production of 9,725 bbls. of oil with 10,000,000 feet of gas, and The Texas Company also brought in a 9,000-bbl. well in its No. 2 Faulkner, making two large wells to help swell Gray County production.

The last half of the year will probably see many more large producers, and as

(Continued on Page 271)

TEXAS PANHANDLE

Daily Average and Monthly Production First Six Months of 1929

	January (bbls.)	February (bbls.)	March (bbls.)	April (bbls.)	May (bbls.)	June (bbls.)	Total 6 mos. (bbls.)
HUTCHINSON:							
Daily average	29,730	27,884	26,534	25,765	25,509	26,546	
Month	921,630	780,752	822,554	772,950	790,779	796,380	4,885,045
CARSON COUNTY:							
Daily average	5,708	5,911	6,316	6,091	6,874	7,328	
Month	176,948	165,508	195,796	182,730	213,094	219,840	1,153,916
GRAY COUNTY:							
Daily average	21,995	20,521	24,405	26,843	32,512	51,315	
Month	681,845	574,588	756,555	805,290	1,007,872	1,539,450	5,365,600
MOORE COUNTY:							
Daily average	2,596	1,479	1,532	1,738	1,681	1,393	
Month	80,476	41,412	47,492	52,140	52,111	41,790	315,421
POTTER COUNTY:							
Daily average	20	27	12	12	12	32	
Month	620	756	372	360	372	960	3,440
WHEELER COUNTY:							
Daily average	689	685	724	717	721	842	
Month	21,359	19,180	22,444	21,510	22,351	25,260	132,104
Daily average	60,738	56,507	59,523	61,166	67,309	87,456	
Total 1929	1,882,878	1,582,196	1,845,213	1,834,980	2,086,579	2,623,680	11,855,526
Total 1928	2,408,359	2,287,607	2,253,173	2,044,020	2,115,409	1,965,484	13,074,052

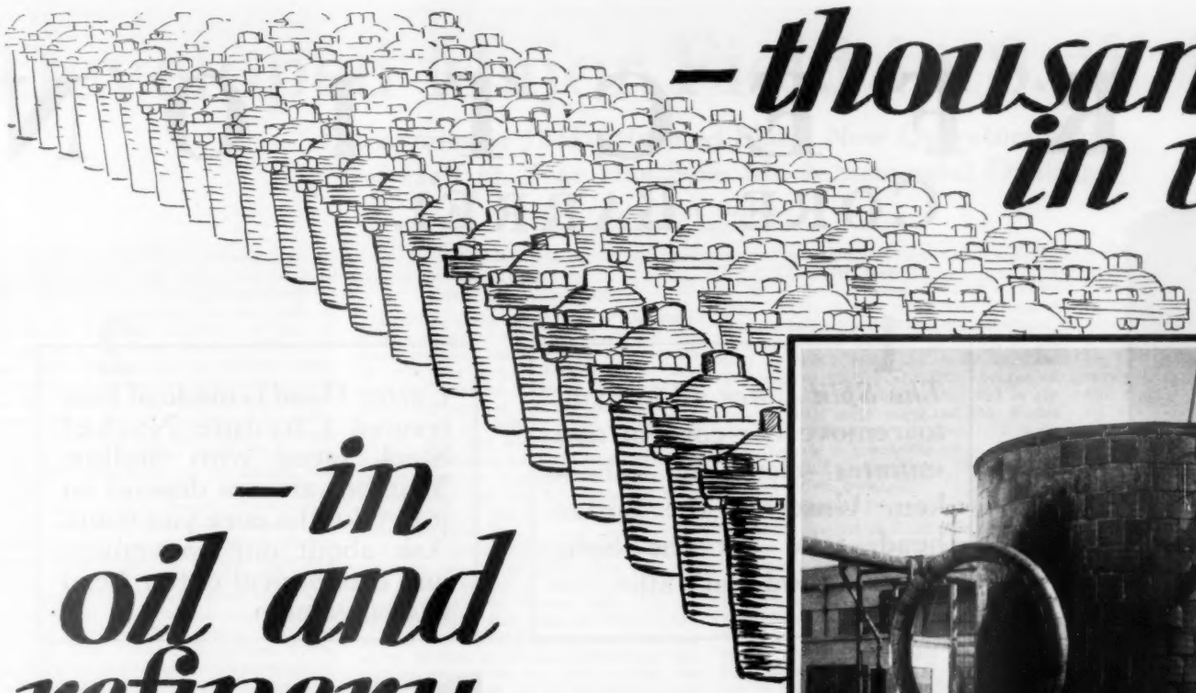
NORTH TEXAS

	January (bbls.)	February (bbls.)	March (bbls.)	April (bbls.)	May (bbls.)	June (bbls.)	Total 6 mos. (bbls.)
BURKBURNETT:							
Daily average	11,095	10,816	10,411	10,418	10,011	10,010	
Month	343,945	302,848	322,741	312,540	310,341	300,300	1,892,715
ELECTRA:							
Daily average	13,914	13,427	13,328	13,636	13,150	13,410	
Month	431,334	375,956	413,168	409,080	407,650	402,300	2,439,488
IOWA PARK—K. M. A.:							
Daily average	3,260	3,110	3,061	3,075	3,922	3,007	
Month	101,060	87,080	94,891	92,250	90,582	90,210	556,073
ARCHER COUNTY:							
Daily average	17,486	16,829	16,771	16,675	17,464	18,050	
Month	542,066	471,212	519,901	500,250	541,384	541,500	3,116,313
CLAY COUNTY:							
Daily average	453	382	515	436	627	626	
Month	14,043	10,696	15,965	13,080	19,437	18,780	92,001
WILBARGER COUNTY:							
Daily average	26,833	27,427	25,945	27,089	26,660	26,573	
Month	831,823	767,956	804,295	812,670	826,460	797,190	4,840,394
MONTAGUE COUNTY:							
Daily average	7101	6,977	7,094	6,994	6,712	6,658	
Month	220,131	195,356	219,914	209,820	208,072	199,740	1,253,033
YOUNG COUNTY:							
Daily average	7,373	4,158	6,909	6,713	6,674	7,006	
Month	228,563	116,424	214,179	201,390	206,894	210,180	1,177,630
BAYLOR COUNTY:							
Daily average	87	80	74	76	84	78	
Month	2,697	2,240	2,294	2,280	2,604	2,340	14,455
COOKE COUNTY:							
Daily average	2,547	2,965	4,947	5,863	5,802	6,271	
Month	78,957	83,020	153,357	175,890	179,862	188,130	859,216
HASKELL:							
Daily average	.....	.....	.....	.....	.....	155	
Month	.....	.....	.....	.....	.....	4,650	4,650
FOARD:							
Daily average	.....	.....	.....	.....	.....	141	
Month	.....	.....	.....	.....	.....	4,230	4,230
Daily average	90,149	86,171	89,055	90,975	90,106	91,985	89,780
Total 1929	2,794,613	2,412,788	2,760,705	2,729,250	2,793,286	2,759,550	16,250,198
Total 1928	2,441,002	2,247,790	2,483,100	2,465,970	2,600,559	2,687,207	14,925,628

CENTRAL TEXAS

Daily Average and Monthly Production First Six Months of 1929

	January (bbls.)	February (bbls.)	March (bbls.)	April (bbls.)	May (bbls.)	June (bbls.)	Total 6 mos. (bbls.)
COLEMAN:							
Daily average	3,047	3,449	3,227	3,711	3,898	3,999	
Month	94,457	96,572	100,037	111,330	120,838	119,970	643,204
COMANCHE:							
Daily average	257	164	232	211	1,202	1,209	
Month	7,967	4,592	7,192	6,330	37,262	36,270	99,613
STEPHENS:							
Daily average	6,406	6,063	6,347	6,343	6,495	6,302	
Month	198,586	169,764	196,757	193,020	201,345	189,060	1,148,533
EASTLAND:							
Daily average	5,961	5,983	5,946	5,905	5,304	5,443	
Month	184,791	167,524	184,326	177,150	164,424	163,290	1,041,505
BROWN:							
Daily average	8,865	8,578	8,383	7,896	7,921	7,752	
Month	274,815	240,184	259,873	236,880	245,551	232,560	1,489,863
CALLAHAN:							
Daily average	3,832	3,715	3,977	3,908	3,811	4,759	
Month	118,792	104,020	123,287	117,240	118,141	142,770	724,250
RUNNELS:							
Daily average	139	161	143	52	44	29	
Month	4,315	4,508	4,433	1,560	1,364	870	17,050
THROCKMORTON:							
Daily average	1,073	613	670	744	664	638	
Month	33,263	17,164	20,770	22,320	20,584	20,640	134,741
JACK:							
Daily average	1,640	1,561	1,468	1,889	2,665	2,922	
Month	50,840	43,708	45,508	56,670	82,615	87,660	367,001
PALO PINTO:							
Daily average	405	406	414	410	362	366	
Month	12,555	11,368	12,834	12,300	11,222	10,980	71,259
SHACKELFORD:							
Daily average	13,160	12,871	13,235	12,804	13,245	11,867	
Month	407,960	360,388	410,285	384,120	410,595	356,010	2,329,358
ERATH:							
Daily average	253	220	246	248	242	238	
Month	7,843	6,160	7,626	7,440	7,502	7,140	43,711
JONES:							
Daily average	5,750	5,084	4,591	4,184	3,794	3,471	
Month	178,239	142,352	142,321	125,520	117,614	104,130	810,176
Daily average	50,788	48,868	48,879	48,396	49,647	49,045	49,283
Total 1929	1,574,423	1,368,304	1,515,249	1,451,880	1,539,057	1,471,350	8,920,263
Total 1928	1,402,754	1,381,096	1,465,029	1,422,150	1,477,119	1,473,111	8,621,259



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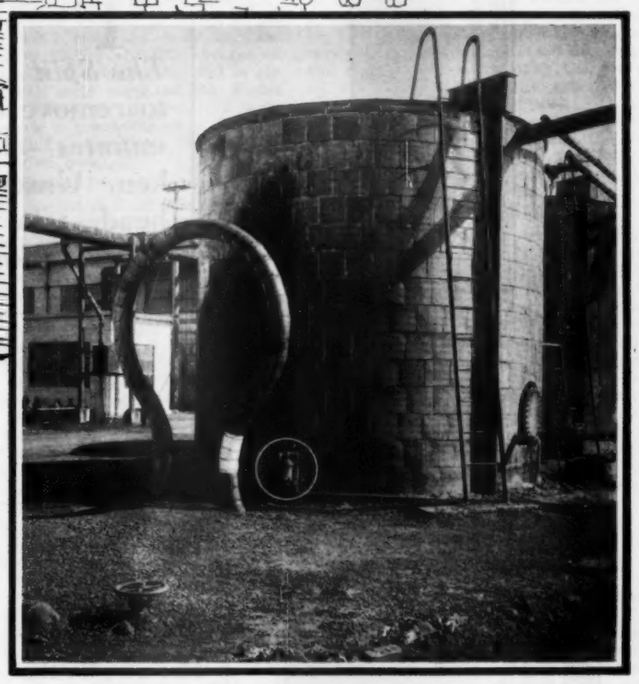

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Developed Major Field in S. W. Texas

Discoveries in 1928 Attracted Many New Operators and First Half of Year Has Seen Much Successful Drilling

By B. D. Stevenson
Staff Correspondent, Southwest Texas Fields

The thing that has characterized oil activity in Southwest Texas for the first half of 1929 has been the increased interest in this territory on the part of operators in other sections of the oil world, and the large number of new oil men and oil companies and branch offices of major companies that have been opened in San Antonio and elsewhere in Southwest Texas during the first six months with indications that the stream will keep coming for a time at least. This may have been influenced by the market conditions and the price of crude, making it less economical to operate in some other places, and may have been influenced by some 20 new producing spots in Southwest Texas discovered during 1928, and again it may have been due to the fact that the industry knows more about this section now, or to all three. In years gone by there have been waves of interest of this kind towards Southwest Texas as there are periodically toward every oil section.

Comparatively Shallow Territory

In Southwest Texas down to the present time there have been approximately 7,000 tests drilled and nearly half of these are in proven fields and producing. With the exception of a double handful of wells producing at around 3,700 feet in the Refugio Field, oil production in Southwest Texas is at less than 3,000 feet in depth and with the exception of the Joe Bruner Field producing at 2,700 feet and a half dozen wells in the Carolina-Texas Field producing at 2,600 feet, all the production is at less than 2,500 feet. Only 327 tests have ever been drilled below 3,000 feet in all Southwest Texas covering a territory of some 65,000 square miles and nearly as large as the State of Oklahoma. Only 60 tests have gone below 4,000, 5 below 5,000, 1 below 6,000 feet and 2 below 7,000 feet. The 3,500-foot dry holes in nonproducing territory, average one test to 12,000 acres, hence the new operator entering this territory may know what to expect. Oil men are prone to say that the surface has been barely scratched.

Large Gain in Production

Another thing that has characterized the district during the last 12 months has been a gain of something like 300 per cent in production and for the first six months of 1929 a gain of some 200 per cent in production of crude oil. Gas production has gained somewhat also. This gain in production of crude oil was largely accounted for by the gain through the development of the Joe Bruner Field at Luling in Caldwell County. Total production of the Joe Bruner Field in June, 1928, was 390 bbls. from one well. Total production in June, 1929, was 1,495,734 bbls. Development of that field got pretty well started during the last half of 1928 but became more intensive in the first half of 1929. The bounds of the field have recently become pretty well defined as of June 30 and the field is 6 miles long with the field perhaps a little more than two-thirds developed and the daily average production around 50,000 bbls., and not a very big chance of the area being extended.

The Joe Bruner Field is the second important Edwards lime producing field in the State. Luling Field discovered by the United North & South Oil Co. in December, 1922, was the first field to produce oil from the Edwards lime and after much unsuccessful wildcatting operators were getting discouraged over finding another. Joe Bruner opened the field named for him. His discovery well, however, was in the Austin chalk. The Sun Oil Co. later got a very small well in the Austin, deepened it to the Edwards at about 2,700 feet and got an oil well and opened the big development.

One Disappointment

Just to get the matter out of the road, it may be stated here that there was one disappointment during the first six months of 1929, the Empire Gas & Fuel Co.'s pool in Gonzales. No. 1 Norwood, 8 miles southeast of the Joe Bruner Field came in an oil well at 3,790 feet and is an oil well yet but four or five other tests in that area have all been dry. The company is not through and is starting another test but the field does not look as bright as it did in January when the first well came in.

Some of the important successes of the first six months of 1929 were Nos. 14 and 15 fee, drilled by Robert Driscoll in Duval County in Survey 448. No. 14 at about 2,900 feet came in early in the year a 10,000,000-foot gas well flowing about 50 bbls. of oil but a little later was making very little gas and a little less than 200 bbls. of oil and is still making that much oil about 9 per cent of the fluid being water. No. 15 came in the first of May at 2,899 feet initially producing 300 bbls. of oil, and is now making about 400 bbls. of fluid about 12 per cent water. A singular thing is that the water in one of these wells is very hot and in the other very cold. Some gas wells had been developed on the Driscoll ranch at about 2,465 feet, the first having been discovered more than a year ago.

Carolina-Texas Field

An old field to come to the limelight is the Carolina-Texas gas field in Webb County. Foster Barnsley drilled his No. 1 Webster in Survey 684 and late in February got a 60-bbl. well. It is making 200 bbls. flowing and would probably pump considerably more. It is the biggest oil well completed in that field. The gas field was opened in 1921 and a year or two ago a little oil was found at 2,600 feet. There are several gas sands. The oil is on the southeast flank of a structure. Early in May The Texas Company brought in its No. 2 Benavides three-quarters of a mile west of Barnsley, a gas well at 2,602 feet, and early in June Trapshooter Reilley at 3,075 feet got an oil well with oil standing 300 feet in the hole, a half mile south of the Foster Barnsley 2,600-foot oil well. It looks like there is a possibility after all these years that Carolina-Texas is about to become an oil pool.

Laredo District Leads

Laredo district of Southwest Texas has rather led the territory in the number of important finds. Charles L. McCaslin at 1,598-1,603 feet in Survey 74, Zapata County, a mile north of a little oil pool near the Jennings gas pool, got an oil well which started off at 200 bbls. Trapshooter Reilley later paid $70,000 for a half interest in the well and 80 acres and is drilling more wells. The discovery was in March and a half dozen tests all producers have been completed in the area since. William F. Morgan drilled his No. 1 Hinnant in the same survey and got a 250-bbl. well.

Early in June H. C. Muckelroy, Jr., and associates drilled No. 1 Trevino in Survey 412, Zapata County, south of the McCaslin test by several miles, and got first a 3,000,000-foot gas well at 1,293-1,300 feet. Ten days later it was an oil well of possibly 50 bbls. a day.

Still another happening late in the first half of 1929 in the Laredo territory was John Poppas' No. 1 Cuellar, over on the Rio Grande near the old town of Zapata. At 1,408 feet he had a small gas well, the importance of it being that it is 20 miles from nearest production.

Medina County

W. R. Painter drilled a test in Medina County on the Muennink farm, 2 miles northwest of the Ina Pool and got an oil well. Recently the Golden West Oil Co. bought a half interest and the operation of the lease, and is starting in to develop the property. It is shallow oil at around 950 feet. There has been a feeling that the Ina Field which though discovered a few years ago has not developed due to difficulty in handling the heavy oil, will some day be found to spread over a big area in that part of Medina County. Golden West Oil Co. seems to have solved the problem of handling the oil and has built a refinery in the field which refinery is now being enlarged and is starting to drill more wells.

Pettus Gas Well

Early in the year it became evident that the Hurador Oil Co.'s No. 1 Ray in northern Bee County, near Pettus, which came in at about 2,800 feet making a little gas, had built up a rock pressure of 1,100 pounds and was a good sized gas well 15 miles from nearest production. The Moody-Seagraves interests took an option on the property for six months and contracted to drill two more wells. The first was completed 600 feet from the Hurado No. 1 Ray and it is a 30,000,000-foot gas well at 2,890 feet and the company has started its other test 3 miles east of the first two to prove out the size of the structure.

Serpentine Gasser

Late in June the Pearson Oil Co.'s No. 1 Irrigated Farms in Medina County, 1 mile southeast of Noonan, came in a gas well in Serpentine from 935 to 1,071 feet.

More Gas Development

From a situation of over-production of gas in Southwest Texas the district is turning soon to one where natural gas will be in demand. This is due to the Magnolia Gas Co., subsidiary of the Magnolia Production Co., building a gas line out of Southwest Texas to the north. With

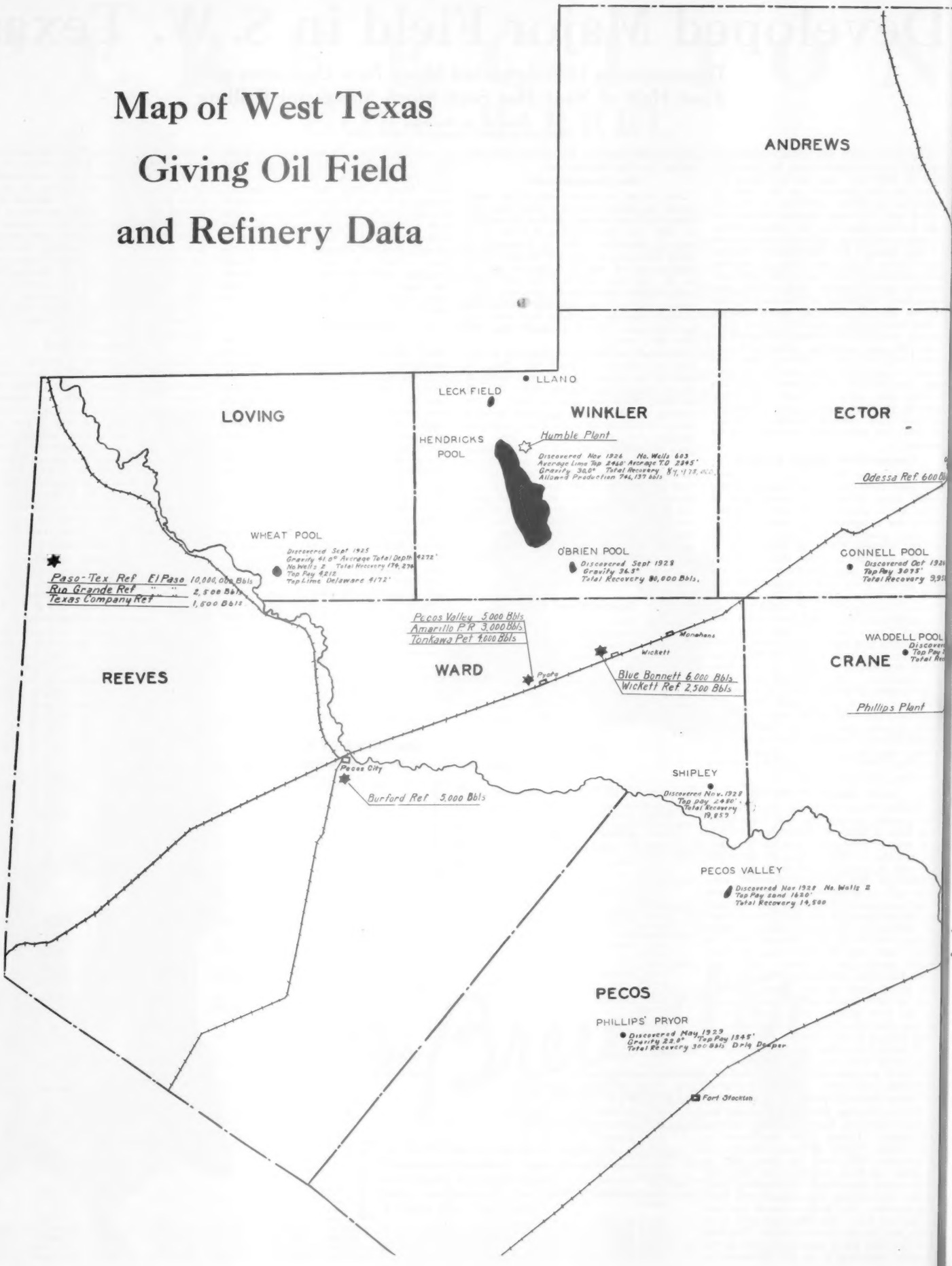
(Continued on Page 271)

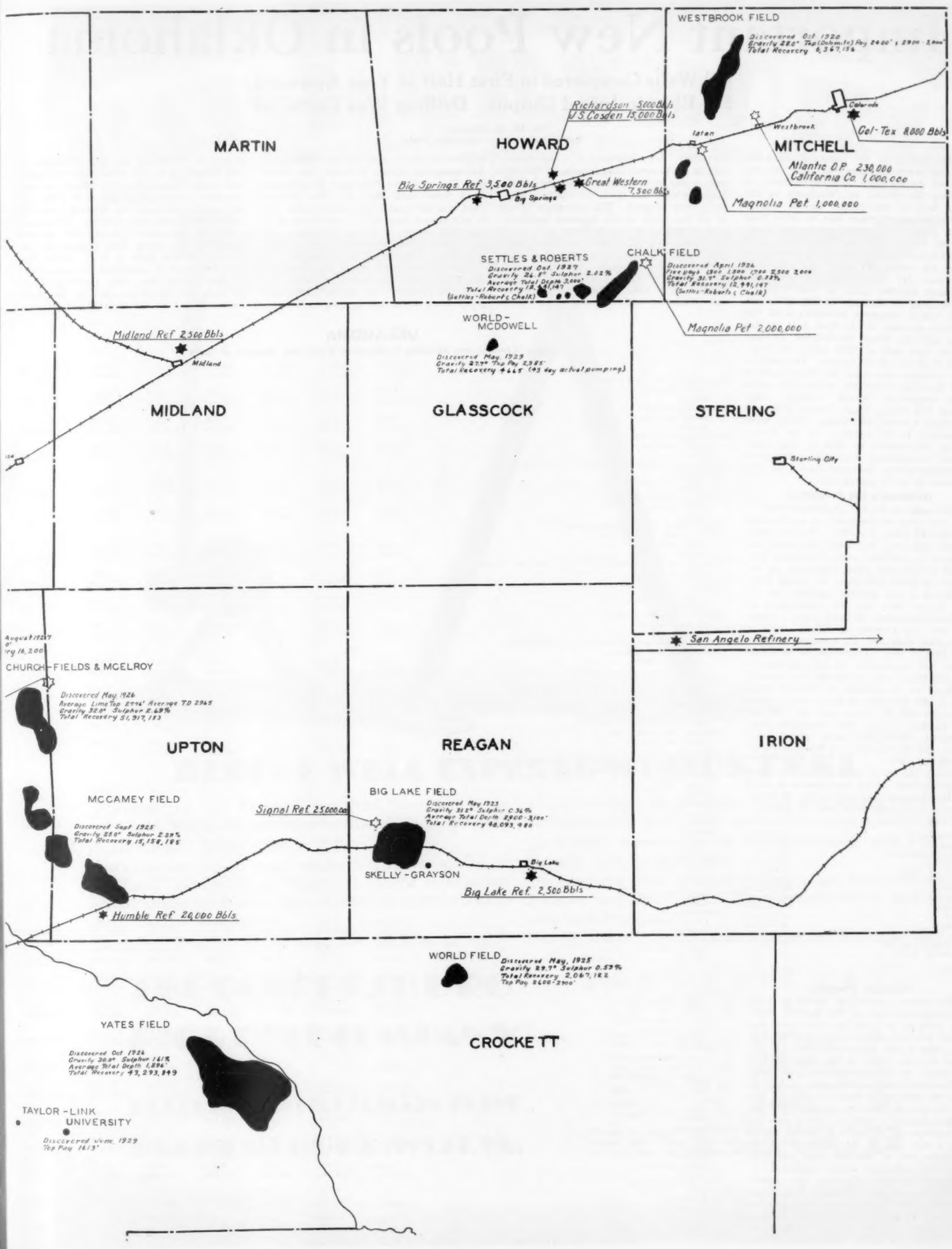
SOUTHWEST TEXAS

Daily Average and Monthly Production First Six Months of 1929

	January (bbls.)	February (bbls.)	March (bbls.)	April (bbls.)	May (bbls.)	June (bbls.)	Total 6 mos. (bbls.)
DALE:							
Daily average	647	564	570	496	512	466	
Month	20,056	15,787	17,654	14,884	15,878	13,989	98,248
BRANYON:							
Daily average	.....	.....	.....	26	27	17	
Month	.....	.....	.....	774	831	524	2,129
BRUNER:							
Daily average	13,945	21,047	31,603	40,944	45,499	49,858	
Month	432,299	589,334	979,706	1,228,320	1,410,455	1,495,734	6,135,848
GONZALES:							
Daily average	162	119	90	78	70	78	
Month	5,020	3,328	2,775	2,347	2,177	2,328	17,975
KINGSVILLE:							
Daily average	274	289	284	281	243	266	
Month	8,489	8,097	8,789	8,438	7,541	7,995	49,349
LARREMORE:							
Daily average	248	226	226	167	167	160	
Month	7,672	6,325	6,997	5,008	5,179	4,807	35,988
LULING:							
Daily average	12,728	13,293	12,942	11,920	12,160	11,861	
Month	394,571	372,199	401,222	357,590	376,590	355,830	2,258,362
LYTTON SRINGS:							
Daily average	1,134	1,139	1,131	1,055	1,039	1,004	
Month	34,833	31,884	35,056	31,648	32,194	30,128	195,743
MAVERICK:							
Daily average	.....	.....	7	.....	.....	.....	
Month	.....	.....	203	.....	.....	.....	203
McMULLEN:							
Daily average	43	54	50	56	66	73	
Month	1,337	1,518	1,560	1,694	2,055	2,179	10,343
MEDINA:							
Daily average	30	26	36	30	30	30	
Month	930	740	1,114	900	930	904	5,518
MIRANDO:							
Daily average	13,503	12,897	13,044	12,319	12,358	11,196	
Month	418,607	361,114	404,373	369,555	383,100	335,892	2,272,641
REFUGIO:							
Daily average	843	1,443	1,147	2,158	2,109	2,665	
Month	26,131	40,414	35,565	64,738	65,378	79,947	312,173
SOMERSET:							
Daily average	1,919	1,902	1,895	1,833	1,793	1,918	
Month	59,479	53,246	58,772	54,985	55,584	57,545	339,611
YOAST:							
Daily average	1,419	1,560	2,181	1,944	1,785	1,216	
Month	44,003	43,691	67,626	58,326	55,347	36,475	305,448
Daily average	46,885	54,559	65,206	73,307	77,858	80,808	66,517
Total 1929	1,453,427	1,527,677	2,021,412	2,199,207	2,413,599	2,424,277	12,039,599
Total 1928	825,036	789,190	839,945	807,553	804,627	774,570	4,840,921
Total 1927	1,245,673	1,075,312	1,167,584	1,112,760	1,092,233	1,020,180	6,713,732
Total 1926	1,233,397	1,100,720	1,220,842	1,176,630	1,208,163	1,062,020	7,101,772

Map of West Texas Giving Oil Field and Refinery Data




WESTBROOK FIELD
Discovered Oct 1928
Gravity 29.0° Top (Dolomite) Pay 2400' & 2900-3000'
Total Recovery 6,367,154
Richardson 5000 Bbls
J.S. Cosden 15,000 Bbls
Colorado
Westbrook
Iatan
Gel-Tex 8000 Bbls
MARTIN
HOWARD
MITCHELL
Atlantic O.P. 230,000
California Co. 1,000,000
Big Springs Ref. 3,500 Bbls
Big Springs
Great Western 7,500 Bbls
Magnolia Pet 1,000,000
SETTLES & ROBERTS
Discovered Oct 1927
Gravity 24.8° Sulphur 2.02%
Average Total Depth 3,000'
Total Recovery 12,991,147
(Settles-Roberts & Chalk)
CHALK FIELD
Discovered April 1926
Gravity 31.1° Sulphur 0.93%
Total Recovery 12,991,147
(Settles-Roberts & Chalk)
Magnolia Pet 2,000,000
WORLD-MCDOWELL
Discovered May 1929
Gravity 27.7° Top Pay 2385'
Total Recovery 4445 (43 day actual pumping)
Midland Ref 2,500 Bbls
Midland
MIDLAND
GLASSCOCK
STERLING
Sterling City
San Angelo Refinery
CHURCH-FIELDS & MCELROY
Discovered May 1926
Average Lime Top 2996' Average TD 2965
Gravity 32.0° Sulphur 2.68%
Total Recovery 51,317,193
UPTON
REAGAN
IRION
MCCAMEY FIELD
Discovered Sept 1925
Gravity 28.0° Sulphur 2.29%
Total Recovery 15,158,185
Signal Ref 25000 Bbls
BIG LAKE FIELD
Discovered May 1923
Gravity 31.2° Sulphur 0.34%
Average Total Depth 2900-3100'
Total Recovery 48,093,490
SKELLY-GRAYSON
Big Lake
Big Lake Ref. 2,500 Bbls
Humble Ref 20,000 Bbls
WORLD FIELD
Discovered May, 1925
Gravity 29.7° Sulphur 0.53%
Total Recovery 2,067,182
Top Pay 2400-2700'
YATES FIELD
Discovered Oct 1924
Gravity 30.0° Sulphur 1.41%
Average Total Depth 1,896'
Total Recovery 43,293,849
CROCKETT
TAYLOR-LINK UNIVERSITY
Discovered June, 1929
Top Pay 1613'

Important New Pools in Oklahoma

Oil Wells Completed in First Half of Year Averaged 503 Bbls. in Initial Output. Drilling Was Curtailed

By W. A. Spinney
Staff Correspondent, Oklahoma Fields

One result of the constant warnings against overproduction of oil in the United States was the curtailment of drilling operations in Oklahoma in the first half of the year. In no similar period in many years was so little field work done in the State as in the January to June period in 1929. A total of 1,740 wells were completed of which 973 were oil wells, 149 were gas wells and 618 were dry holes. The oil wells represented 488,960 bbls. in first-24-hours' production, an average of 503 bbls. per well, which compares favorably with the 376-bbl. average in the first half of last year but was below the 692-bbl. average in the first half of 1927 when the Seminole Pool was at its height. The bulk of the drilling was done in Pottawatomie and Seminole Counties, where 673 wells were completed. Creek County completed 170 wells, Osage County 138, and Stephens County 100 wells. Wells were completed in 48 counties in the State, giving the reader an idea of the widespread development work that was done notwithstanding the curtailment in the number of wells completed.

Oklahoma's Big Production

Oklahoma produced 126,020,255 bbls. in the first half of the year, or an average of 696,245 bbls. per day. In the same period last year, but with one more day because it was leap year, Oklahoma produced 117,458,526 bbls., indicating an increase of 8,561,729 bbls. It would have produced a far greater quantity of oil had it not been for the curtailment of drilling operations in flush areas. January saw an average of 728,254 bbls. a day, and February an average of 730,862 bbls. a day. Proration in Seminole Field cut production to an average of 674,513 bbls. a day in March. It increased in April to an average of 674,513 bbls., and to 688,563 bbls. in May, and in June averaged 685,371 bbls., and was still on the upward swing. The Seminole Field produced 50,997,320 bbls. from eight pools, and St. Louis and Pearson added 19,436,553 bbls.

Up to the close of June the Greater Seminole area, which was opened in 1923 by the discovery of oil in the Wewoka district, had produced a total of 436,571,303 bbls., divided as follows:

Wewoka	27,900,906
Cromwell	37,513,762
Papoose-Gilcrease	19,585,827
Weleetka	2,297,749
Seminole City	79,458,729
Earlsboro	82,997,044
Bowlegs	66,829,298
Little River	44,114,460
Searight	20,185,058
Maud	4,772,268
Mission	3,775,184
Carr City	1,836,949
St. Louis-Pearson	39,032,814
Scattered pools	6,271,255
Total	436,571,303

Seminole Proration

The serious problem of trying to bring the overproduction in the greater Seminole area to a limit in a manner that would not injure any individual or company, was a task that confronted oil operators in that field in the first part of the year. It brought out the fact that co-operation and co-ordination helped to keep the production from becoming a burden on the oil industry. During the last week in January crude oil prices were cut an average of 22 cents a barrel, which was a net loss to oil operators in the Seminole area of $66,000 daily and $28,000 daily to the St. Louis operators.

Soon after the price cut the production in the Greater Seminole area began showing a substantial gain, and it reached such an alarming figure that meetings were held in Tulsa by the operators in that district to effect some kind of conservation. On February 5 a resolution calling for immediate reduction to 650,000 bbls. a day of the crude oil output of the State, which was then at 728,000 bbls. daily, was adopted. The proration of oil in all the pools in the Greater Seminole area, including St. Louis Pool, was made effective. Ray M. Collins, of Tulsa, was selected as umpire, and proration was applied on the percentage basis by leases. Open gauges were taken twice each month. The area subject to proration was producing 425,000 bbls. a day, and Collins set out to reduce it by 78,000 bbls. All operators agreed to make the proration plan effective February 10 and keep it in force until May 1. The Mission Pool was the particular danger spot, and it was agreed that the 77 tests then drilling, shut down on top of the sand, and the second group of wells, which were to be started February 1, be postponed.

The Mission region was considered so important that operators in that pool agreed to produce a maximum of 200 bbls. a day from wells which were to be completed by February 15, that program to end March 15 in the pool. While no definite action was taken in regard to new locations in the second group of wells under consideration in the Mission area, 60 wells constituted that activity. The same week the proration plans were agreed upon oil was going into storage at the rate of 50,000 bbls. a day. After the plan had been in operation for some time it was found that the shutting down of wells on top of the sand in the flush areas slowed up the bringing in of new

OKLAHOMA

Daily Average and Monthly Production First Six Months of 1929

	January (bbls.)	February (bbls.)	March (bbls.)	April (bbls.)	May (bbls.)	June (bbls.)	Total 6 mos. (bbls.)
WASHINGTON COUNTY:							
Daily average	5,298	6,081	5,515	5,498	5,436	5,419	
Month	164,238	170,268	170,965	164,940	168,516	162,570	1,001,497
NOWATA COUNTY:							
Daily average	5,482	5,371	5,487	5,492	5,535	5,507	
Month	169,942	150,388	170,097	164,760	171,585	165,210	991,982
ROGERS COUNTY:							
Daily average	1,868	1,984	1,934	2,043	1,971	1,983	
Month	57,908	55,552	59,954	61,290	61,101	59,490	355,295
OSAGE AND EASTERN KAY COUNTIES:							
Burbank—							
Daily average	24,888	24,562	22,282	21,142	20,971	19,765	
Month	771,528	687,736	690,742	634,260	650,101	592,950	4,027,317
Osage, outside Burbank—							
Daily average	25,267	28,521	25,573	24,947	24,574	25,328	
Month	783,277	798,588	792,763	748,419	761,794	759,840	4,644,672
TULSA AND WAGONER COUNTIES:							
Bird Creek, Owasso, etc.—							
Daily average	3,695	3,674	3,658	3,647	3,632	3,635	
Month	114,545	102,872	113,398	109,410	112,592	109,050	661,867
Red Fork, Sand Springs, Turkey Mt. and Bruner—							
Daily average	1,116	1,288	1,212	1,321	1,283	1,277	
Month	34,596	36,064	37,572	39,630	39,773	38,316	225,945
Bixby, Leonard—							
Daily average	1,695	1,095	1,069	1,074	1,018	1,020	
Month	52,545	30,660	33,139	32,220	31,558	30,600	210,722
Broken Arrow, Coweta—							
Daily average	1,177	1,016	1,043	1,018	995	988	
Month	36,487	28,448	32,333	30,540	30,845	29,640	188,293
OKMULGEE AND MUSKOGEE COUNTIES:							
Okmulgee and Beggs—							
Daily average	7,541	6,904	6,840	2,923	2,825	2,863	
Month	233,771	193,312	212,040	87,690	87,575	85,890	900,278
Mounds—							
Daily average	1,955	1,864	1,774	1,863	1,826	1,811	
Month	60,605	52,192	54,994	55,890	56,606	54,330	334,617
Bald Hill and Haskell—							
Daily average	2,332	2,928	2,954	2,847	2,554	2,710	
Month	103,292	81,984	91,574	85,410	79,174	81,300	522,734
Morris, Boynton, Cole—							
Daily average	2,191	2,195	2,058	2,040	2,042	2,006	
Month	67,921	61,460	63,798	61,200	63,302	60,180	377,861
OKMULGEE, OKFUSKEE, SEMINOLE AND POTTAWATOMIE COUNTIES:							
East Seminole:							
Daily average	.....	.....	.....	.....	.....	4,565	
Month	.....	.....	.....	.....	.....	136,950	136,950
Seminole City—							
Daily average	39,737	37,743	32,556	33,176	34,544	34,469	
Month	1,231,847	1,056,804	1,009,236	995,280	1,070,864	1,034,082	6,398,113
Bowlegs—							
Daily average	42,155	39,082	34,028	34,119	35,127	35,403	
Month	1,306,805	1,094,296	1,054,868	1,023,570	1,088,937	1,062,098	6,630,574
Little River—							
Daily average	94,419	95,596	80,268	73,524	76,886	77,482	
Month	2,926,989	2,676,688	2,488,308	2,205,720	2,383,466	2,324,479	15,005,650
Earlsboro—							
Daily average	68,366	63,075	56,659	59,817	62,218	64,405	
Month	2,119,346	1,766,100	1,756,429	1,794,510	1,928,758	1,932,164	11,297,307
Searight—							
Daily average	8,509	9,179	9,892	10,038	12,056	12,232	
Month	263,779	257,012	306,652	301,140	373,736	366,960	1,869,279
Mission—							
Daily average	719	9,920	30,519	28,496	38,726	37,660	
Month	22,289	277,760	946,089	854,880	1,200,506	1,129,801	4,431,325
Carr City—							
Daily average	.....	.....	1,015	11,582	14,494	14,399	
Month	.....	.....	31,465	347,460	449,314	431,972	1,260,211
Maud—							
Daily average	28,636	40,354	21,749	16,036	13,499	12,550	
Month	887,716	1,129,912	674,219	481,080	418,469	376,510	3,967,906
Total Seminole Field—							
Daily average	282,541	294,949	266,686	266,788	287,550	293,165	
Month	8,757,771	8,258,572	8,267,266	8,003,640	8,914,050	8,795,021	50,997,320
Asher—							
Daily average	.....	.....	.....	.....	4,839	9,263	
Month	.....	.....	.....	.....	150,009	277,890	427,899
Pearson-St. Louis—							
Daily average	132,041	121,259	103,329	104,034	96,780	87,454	
Month	4,093,271	3,395,252	3,203,199	3,121,020	3,000,180	2,623,631	19,436,553
Henryetta, Deaner-Lyons, etc.—							
Daily average	3,792	3,756	3,668	7,969	7,664	7,114	
Month	117,552	105,168	113,708	239,070	237,584	213,419	1,026,501
Wewoka—							
Daily average	4,344	5,021	4,973	4,892	4,815	4,787	
Month	134,664	140,588	154,163	146,760	149,265	143,616	869,056
Cromwell—							
Daily average	7,855	7,696	8,000	8,173	8,119	7,970	
Month	243,505	215,488	248,000	245,190	251,689	238,998	1,442,870
Papoose-Gilcrease—							
Daily average	3,447	3,485	3,478	3,374	3,326	3,263	
Month	106,857	97,580	107,818	101,220	103,106	97,888	614,469
Jarvis-Holm—							
Daily average	478	478	446	477	409	381	
Month	14,818	13,384	13,826	14,310	12,679	11,430	80,447

(Continued on Next Page)

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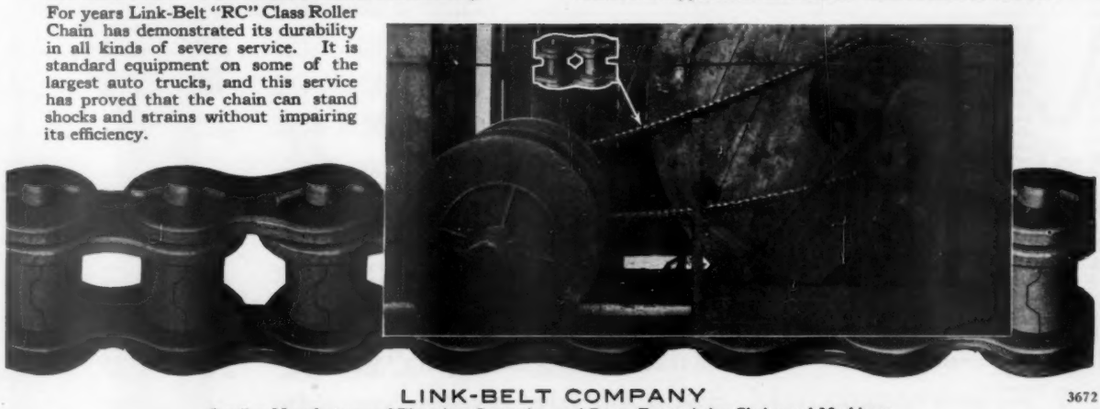

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production in other areas. The plan was extended for 15 days and it was removed on May 15 after much discussion. The removal of the proration plan did not have much effect on the general production of the State. The greater Seminole region was expected to show an increase but not until two weeks later did the production increase to 17,000 bbls. a day.

In the balance of the oil producing areas of the State little of importance took place. In the southwestern part of the State the areas receiving the most attention consisted of Roger Mills, Beckham, Greer, Harmon and Johnson Counties, which went through a leasing campaign and several wildcat tests started. Caddo County in the south central part of the State, has been the scene of much geological work, and many express an opinion that the county will produce large quantities of crude oil. The northwestern counties are being leased more than ever before. Grant County has been and is getting a big play on account of the new well completed by the Gypsy Oil Co., just over the state line in Sumner County, Kansas. More core drilling and magnetometer work is getting under way in the western counties of the State than has ever been attempted in the history of the oil business. In the southeastern part of the State, in Pittsburg and Latimer Counties, a short leasing campaign took place, and about 10,000 acres were taken on a supposed gas structure, which will not be developed until it is necessary to use the gas.

$37,000,000 Transaction

One of the most important happenings in the past six months and probably one of the largest transactions in the history of the oil business, was the sale of the properties of T. B. Slick to the Prairie Oil & Gas Co. for the reported consideration of $37,000,000. The sale caused a more optimistic feeling by the removal of all that oil from the open market. Coming at a time when proration was in effect, it had more to do with bringing about higher prices than any other one thing.

Mission Development

In the early part of the year the Mission Pool in the Seminole area was just beginning to report completed wells. The pool, located in Townships 8-6 and 8-5, west of the Bowlegs Pool, was one of the main reasons the proration plan was thought necessary. It soon developed that its operations were running low on structure, and the general prospects of the pool appeared to be for a small flush area. But at first, after the potentials were taken, it was found necessary to reduce the production and slow up the drilling. The first of the new crop of wells to reach the Wilcox sand was the Tidal Oil Co.'s No. 1 Miller, NE cor. SE, Section 12-8-5. It had sand at 4,389-95 feet with a hole full of water, which caused a lot of disappointment to other operators holding nearby leases. It was on the last day of January the pool reached the shutdown stage in drilling operations. On the same day water appeared in wells throughout the field, which did little to improve the prospects of the area. Mission reached its peak in February with a production of 48,840 bbls., when a majority of the wells started declining in production. Gypsy Oil Co. completed one of the largest wells in the pool late in March. It was No. 8 Barkus, NW cor. SE SW, Section 6-8-6, Seminole County, and flowed 4,110 bbls. from the Wilcox sand at the total depth of 4,192 feet.

The discovery of the Misener sand on the north side of the Maud Pool in Township 8-5, caused more drilling wells and new work. The discovery well was completed by the Prairie Oil & Gas Co., the No. 1 Zillington, SW cor. NW, Section 11-8-5, it had the Misener sand at 4,050-60 feet and produced 400 bbls. a day.

Shortly after this discovery all the operators agreed to limit drilling by not starting any new wells offsetting the Empire Oil & Gas Co.'s No. 1 Cluck, SW NE, Section 11-8-5. The owners limited the production of the well to 50 bbls. a day. The work of restricting the production of this well was in the interests of conservation, and the drilling of 15 or 20 wells was avoided. Gypsy Oil Co. got a big Misener sand in its No. 3 Miller, SE NE SE, Section 18-8-5. The well had Misener sand at 4,026-30 feet. The first day's production was 8,470 bbls. It was the best producer in the Maud region.

Production in Simpson lime was found in the Twin State Oil & Gas Co.'s No. 2, NW SW, Section 7-8-5, at 4,347-58 feet, where the well made several flows and produced 436 bbls. of oil in 24 hours.

St. Louis Big Pool of 1929

St. Louis Pool reached a new peak early in January of 139,176 bbls. a day from 284 wells. One of the principal reasons for the large increase was the completion of the Pure Oil Co.'s wells on the Thomas lease in Section 26-7-4, Pottawatomie County, and the deepening of several other wells in the pool. Soon after February 1 the pool started to show a large decline with the appearance of water in many of the wells. The prospect of additional production was lessened by the small recovery of T. B. Slick and Maud Oil & Gas Co.'s No. 2 Davis, in Section 18-7-5, which was completed for 680 bbls. in the Hunton lime at 4,083-4,138 feet. The test was on the northwest edge of the pool. Shortly after this well was completed many failures were reported on the north edge of the pool. A new extension 1½ miles to the northwest was drilled in by Irwin & Martin and others, their No. 1 Kelly, SE cor. NE NE, Section 2-7-4, Pottawatomie County. It had the top of the Hunton lime at 3,750-57 feet where it produced 750 bbls. of oil the first 24 hours. The well was over 1½ miles from any other production. Further development was started in Sections 8 and 9-16-17, in Township 7-4. Oil was found in the Hunton and Simpson formations. Independent Oil & Gas Co.'s No. 1 Rhodd, NW cor., Section 16-7-4, Pottawatomie County, was producing from the Simpson lime at 4,012-48 feet and made as high as 3,700 bbls. a day. The well was half a mile from production and enhanced the looks of the area to the north. The Independent Oil & Gas Co.'s No. 1 Barrows, in the SW NW NW, Section 1-7-4, was the first well to find the Wilcox sand productive in this north extension to the St. Louis Pool. It found the Wilcox sand at 4,237-42 feet and the best day's production was 616 bbls. It offsets the discovery well in the north extension which is making its production from the Hunton lime.

In the Seminole City Pool development was at a standstill. A community test north of the original pool, was started in Section 11-9-6, Seminole County, known as the Carter Oil Co. and others' No. 1 Strothers. It found production in the Hunton lime at 4,160-4,320 feet, and made 175 bbls. the first

OKLAHOMA (Continued)

	January (bbls.)	February (bbls.)	March (bbls.)	April (bbls.)	May (bbls.)	June (bbls.)	Total 6 mos. (bbls.)
Weleetka—							
Daily average	1,782	1,515	1,319	1,186	1,302	1,255	
Month	55,242	42,420	40,889	35,580	40,362	37,643	252,136
Wetumka—							
Daily average	39	39	39	11	39	37	
Month	1,209	1,092	1,209	330	1,209	1,116	6,165
Yeager—							
Daily average	295	293	293	291	317	289	
Month	9,145	8,204	9,083	8,730	9,827	8,670	53,659
Miscellaneous—							
Daily average	1,188	1,976	3,304	8,843	3,769	3,515	
Month	36,828	55,328	102,424	265,290	116,839	105,450	682,159
CREEK AND TULSA COUNTIES:							
Glen Pool, Jenks, Kiefer—							
Daily average	6,870	6,847	6,555	7,153	6,912	6,816	
Month	212,970	191,716	203,205	214,590	214,272	204,480	1,241,233
Sapulpa and Fisher—							
Daily average	672	611	669	667	766	668	
Month	20,832	17,108	20,739	20,010	23,746	20,040	122,475
Cushing-Shamrock—							
Daily average	19,234	18,840	17,692	17,201	16,310	16,415	
Month	596,254	527,520	548,452	516,030	505,610	492,450	3,186,316
Bristow, Kellyville and Depew—							
Daily average	13,711	13,650	13,310	13,609	13,705	13,114	
Month	425,041	382,200	412,610	408,270	424,855	393,420	2,446,396
Pickett Prairie and North Bristow—							
Daily average	1,779	1,737	1,652	1,684	1,502	1,517	
Month	55,149	48,636	51,212	50,520	46,562	45,510	297,589
Eastern Bristow or Slick—							
Daily average	8,057	8,873	8,318	7,685	7,385	7,005	
Month	249,767	248,444	257,858	230,550	228,935	210,150	1,425,704
PAWNEE COUNTY—							
Cleveland—							
Daily average	2,449	2,387	2,382	2,526	2,544	2,461	
Month	75,919	66,836	73,842	76,080	78,864	73,830	445,371
Keystone—							
Daily average	1,357	1,396	1,470	1,454	1,447	1,402	
Month	42,067	39,088	45,576	43,620	44,857	42,060	257,262
Jennings—							
Daily average	2,825	2,792	2,740	3,491	2,477	2,611	
Month	87,575	79,176	84,940	104,730	76,787	78,330	510,538
Otoe—							
Daily average	848	596	583	567	559	551	
Month	26,288	16,688	18,073	17,010	17,329	16,530	111,918
Ralston-Mesham—							
Daily average	163	165	162	157	156	152	
Month	5,053	4,620	5,022	4,710	4,836	4,560	28,801
PAYNE COUNTY:							
Yale, Quay and Ingalls—							
Daily average	5,017	4,523	4,369	4,354	4,131	4,076	
Month	155,527	126,644	135,439	130,620	128,061	122,280	798,571
North Cushing—							
Daily average	1,219	1,200	1,120	1,155	1,145	884	
Month	37,789	33,600	34,720	34,650	35,495	26,520	202,774
South Cushing—							
Daily average	400	310	348	285	283	272	
Month	12,400	8,680	10,788	8,550	8,773	8,160	57,351
Mehan-Ripley—							
Daily average	1,181	1,071	1,019	983	1,030	1,003	
Month	36,611	29,988	31,589	29,490	31,930	30,090	189,698
OKLAHOMA COUNTY:							
Trosper Park:							
Daily average	5,124	5,540	3,410	3,387	2,839	5,041	
Month	158,844	155,120	105,710	101,610	88,009	151,230	760,523
LINCOLN COUNTY:							
Stroud—							
Daily average	1,078	1,026	1,053	1,055	1,013	1,019	
Month	33,418	28,728	32,643	31,650	31,403	30,570	188,412
Davenport—							
Daily average	1,728	1,654	1,684	1,626	1,488	1,461	
Month	53,568	46,312	52,204	48,780	46,128	43,830	290,822
Kendrick—							
Daily average	245	245	267	259	271	280	
Month	7,595	6,860	8,277	7,770	8,401	8,400	47,303
KAY, GRANT AND NOBLE COUNTIES:							
Blackwell—							
Daily average	946	952	1,039	1,026	1,031	1,016	
Month	29,326	26,656	32,209	30,780	31,961	30,480	181,412
Vernon—							
Daily average	1,356	1,521	1,235	1,182	1,167	1,114	
Month	42,036	36,988	38,285	35,460	36,177	33,420	222,366
Otstot—							
Daily average	964	831	981	911	903	891	
Month	29,884	23,268	30,411	27,330	27,993	26,730	165,616
Deer Creek—							
Daily average	733	773	827	818	811	801	
Month	22,723	21,644	25,637	24,540	25,141	24,030	143,715
Ponca City—							
Daily average	736	697	693	633	624	616	
Month	22,816	19,516	21,483	18,990	19,344	18,480	120,629
Mervine—							
Daily average	292	281	264	248	251	246	
Month	9,052	7,868	8,184	7,440	7,781	7,380	47,705
Hubbard—							
Daily average	1,991	2,043	2,021	1,923	1,862	1,811	
Month	61,721	57,204	62,651	57,690	57,722	54,330	351,318
Braman—							
Daily average	3,532	3,426	3,558	3,761	3,787	3,668	
Month	109,492	95,928	110,298	112,830	117,397	110,040	655,985
Thomas—							
Daily average	875	937	837	973	918	891	
Month	27,125	26,236	25,947	29,190	28,458	26,730	163,686

(Continued on Next Page)

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day. After the gas lift had been used to flow the well the production increased to 1,300 bbls. daily. The community block in Sections 10 and 11-9-6 was further extended by the finding of oil in the second test, drilled by the Carter Oil Co. and others' No. 1 Stewart, NE cor. SE, Section 10-9-6, which made 4,175 bbls. a day from the Hunton lime at 3,991-4,069 feet.

East Seminole Pool Opened

The area east of the Seminole City Pool surprised the trade when the Sinclair Oil & Gas Co.'s No. 1 Thompson, NE cor., Section 18-9-7, Seminole County, found Wilcox sand at 4,250-60 feet, and started to swab 710 bbls. a day. This resulted in more test wells in the region, making a new pool, now called East Seminole. By the close of June, 1929, it had 13 producing wells with a daily production of 5,000 bbls. Over on the extreme east side of Seminole County, McCulloch Oil Co.'s No. 1, in Section 4-8-8, a few miles north of Wewoka, had a small show of oil in the Simpson lime. The area in which the test was located has been condemned for several years on account of dry holes drilled nearby. The test found water in the Wilcox sand and was abandoned.

Earlsboro Extended

The Earlsboro Pool which was opened in Township 9-5, Pottawatomie County, was extended into Township 9-6, Seminole County, in the first half of the year. It was opened by the Magnolia Petroleum Co. with its No. 1 Moore, NW NE SE, Section 24-9-5, drilled to the Wilcox sand at 4,210-24 feet, from which sand it made an initial production of 425 bbls. on the swab. By the end of June there were seven completed wells producing 21,000 bbls. a day.

The Searight Pool was extended by the Magnolia Petroleum Co.'s No. 1 Varnum, SE SW SE, Section 32-10-6, Seminole County, by finding production in the Hunton lime at 4,110 feet. The pool was further extended by the Magnolia Petroleum Co.'s No. 1 Nevins, NE SW SE, Section 32-10-6, Seminole County, when it found Wilcox sand at 4,356-68 feet. After a shot the well swabbed 920 bbls. The well provides a northeast extension. Sinclair Oil & Gas Co. completed No. 1 Alexander, SE cor., Section 36-10-5, Seminole County, still further extending the producing area in the pool. The well found the Wilcox sand at 4,330-43 feet, and it produced 785 bbls. the first 24 hours.

Little River Surprises All

Little River Pool exceeded all expectations by holding a steady production and increasing its area. The southeast extension to the pool developed good oil and gas wells in the Cromwell sand. East Little River was a disappointment until the Mid-Continent Petroleum Corp. found big Wilcox sand wells on its Smith lease in the E half NW, Section 5-7-7. It now is the largest producing lease in the entire Seminole area, and only six wells had been completed on the property up to July 1. The lease made as much as 12,000 bbls. a day. The Independent Oil & Gas Co.'s No. 1 Carpenter, NW cor., Section 27-7-6, Little River, started off with a daily production of 2,300 bbls. from the Cromwell sand at a total depth of 3,118 feet, and is still producing 1,200 bbls. a day. Its steady output caused many new tests to be started and locations to be made.

The Carr City Pool was made by separating the Wilcox sand wells and the Misener sand wells in the Maud area. The district covered Sections 11 and 14-8-5, and is now called Carr City Pool. The Misener sand and Hunton lime wells on the west side of the township are in the Maud Pool. Very few completions were reported in the area covered by the Carr City Pool during the past six months. It is holding a steady flow from the present completed wells, but little in the way of new development work is expected.

Asher a Disappointment

The Asher Pool was opened in April. It is located about 6 miles south of the Pearson Switch Pool and about 12 miles southwest of the St. Louis Pool. It seemed to be in line with the big producing pools in the Seminole area and many expected it to develop into a major development It was discovered by the Simms Oil Co.'s No. 1 Laster, SE cor. NE NE, Section 19-6-4, Pottawatomie County, and found its production in the Viola lime at 3,650-99 feet, and made 1,455 bbls the first 24 hours, increasing its production by the use of the gas lift to 3,700 bbls 10 days later. It produced approximately 200,000 bbls. of oil the first three months. The completion of this well caused great activity in the area and high prices were paid for leases offsetting the well and town lots in the townsite of Asher were leased ot ridiculous prices. It was a disappointment. Tests started that were never finished on account of dry holes being completed. Prairie Oil & Gas Co. and Tom Slick Oil Co.'s No. 1 Laster, NE cor. SE NE, Section 19-6-4, was the second well completed in the new pool. It found the top of the Viola at 3,605-62 feet, where it started producing 120 bbls. an hour. Geologists found the tests to be 60 feet higher on the Viola formation than the discovery well, and many expected the pool to develop into a major sized pool. The third test completed was Tom Slick Oil Co.'s No. 1 Bledsoe, NW cor. SW NW, Section 20-6-4, Pottawatomie County. It found production in the Viola lime at 3,635 feet and made 800 bbls. a day. The peak of production early in June from eight completed wells was 10,250 bbls. It soon declined to 8,500 bbls. from 12 completed wells. Ten of the tests found water in the Viola and Simpson, and the few that were carried to the Wilcox sand also got water. The completion of these failures made the future of the pool very dark. McCulloch Oil Co.'s No. 1 in the NW cor. SE SW, Section 28-6-4, Pottawatomie County, a rank wildcat test several miles from the discovery well, found water in the Viola lime and also in the Wilcox sand and was abandoned. The majority of the tests that were started in the townsite of Asher found water in the Viola lime, and one test was drilled to the Wilcox sand, which caused most of the others to shut down at whatever depth they were. Altogether about 50 tests were started in the district after the discovery well made such a big producer. Only 12 of these made paying wells. All the rest either found water in the Viola, Simpson or Wilcox sand or were abandoned before they reached that depth.

Allen Deep Sand Inconsistent

The Allen Pool proved an uncertain development in the deep sand. Sinclair Oil & Gas Co.'s No. 1 Amos, in Section 7-5-8, Seminole County, the discovery well in the Wilcox sand in the Allen Pool, completed in 1928, flowed 37 bbls. an hour. The pool was extended 2 miles west by Tom Slick Oil Co.'s well in Section 24-5-7, which flowed 105 bbls. in 30 minutes and made 800 bbls the first 24 hours. Deep sand production was dealt a blow by the failure of the Sun-Ray Oil Co.'s No. 1 Harjo, NW SE SW, Section 7-5-8, by finding a hole full of water in the Wilcox sand at 4,283-93 feet. The field was further extended by the discovery of oil in the Wilcox sand in the Sinclair Oil & Gas Co.'s No. 1 Jefferson, in Section 23-5-7, which found the Wilcox sand at 4,175-83 feet and began flowing at the rate of 50 bbls. an hour. The first 24 hours' gauge was 847 bbls. The Cromwell sand gas then broke into the well from a depth of 2,650 feet, and it was some time before it could be

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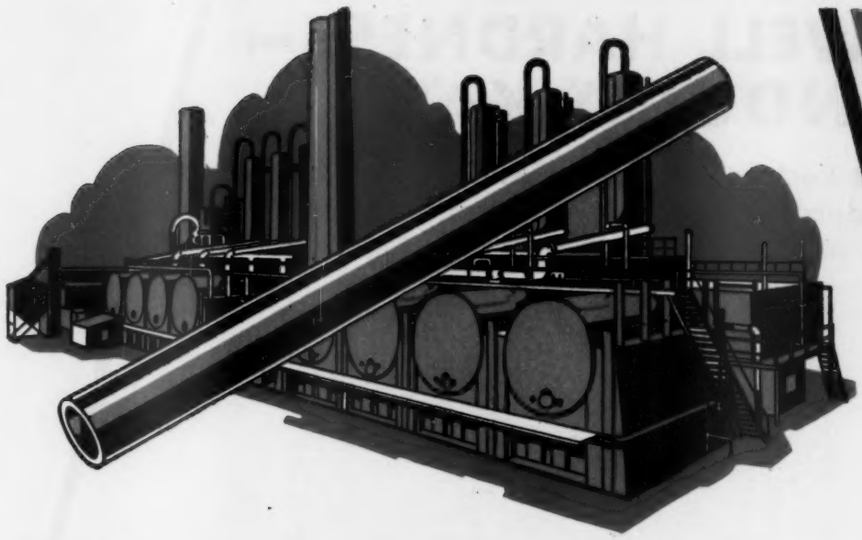
OKLAHOMA (Continued)

	January (bbls.)	February (bbls.)	March (bbls.)	April (bbls.)	May (bbls.)	June (bbls.)	Total 6 mos. (bbls.)
Garrett—							
Daily average	39	43	48	33	33	32	
Month	1,209	1,204	1,488	990	1,023	960	6,874
Tonkawa—							
Daily average	10,516	10,233	10,704	10,112	10,116	10,023	
Month	325,996	286,524	331,824	303,360	313,596	300,690	1,561,990
Billings—							
Daily average	170	168	170	178	176	170	
Month	5,270	4,704	5,270	5,340	5,456	5,100	31,140
Miscellaneous—							
Daily average	120	251	247	249	218	214	
Month	3,720	7,028	7,657	7,470	6,758	6,420	39,052
GARFIELD COUNTY:							
Garber—							
Daily average	6,024	5,917	5,825	5,751	5,719	5,690	
Month	186,744	165,676	180,575	172,530	177,289	170,700	1,053,514
LOGAN COUNTY							
Lovell—							
Daily average	1,079	1,041	1,075	1,083	1,106	960	
Month	33,449	29,148	33,325	32,490	34,286	28,800	191,498
Marshall—							
Daily average	13,516	11,467	10,344	11,202	16,116	15,612	
Month	418,996	321,076	320,664	336,060	499,596	468,360	2,364,752
CARTER COUNTY:							
Healdton—							
Daily average	13,189	13,033	13,317	10,091	12,952	12,477	
Month	408,859	364,924	412,827	302,730	401,512	374,310	2,265,162
Hewitt—							
Daily average	8,635	8,281	8,197	8,342	8,186	8,087	
Month	267,685	231,868	254,107	250,260	253,766	242,610	1,500,296
Graham—							
Daily average	3,535	3,472	3,360	3,682	3,249	3,255	
Month	109,585	97,216	104,160	110,460	100,719	97,650	619,700
Brock—							
Daily average	2,542	681	658	678	615	619	
Month	78,802	19,068	20,398	20,340	19,065	18,570	176,243
Fox—							
Daily average	670	2,479	2,441	2,319	2,499	2,363	
Month	20,770	69,412	75,671	69,570	77,469	70,890	383,782
Sholom Alechem—							
Daily average	13,106	12,942	13,049	13,408	13,173	13,019	
Month	406,286	349,776	404,519	402,240	408,363	390,570	2,361,754
STEPHENS AND COTTON COUNTIES:							
Loco-Milroy—							
Daily average	1,594	1,553	1,400	1,486	1,579	1,475	
Month	49,414	43,484	43,400	44,580	48,949	44,250	274,077
Comanche—							
Daily average	499	453	958	529	783	660	
Month	15,469	12,684	29,698	15,870	24,273	19,800	117,794
Duncan—							
Daily average	6,659	6,463	4,977	4,772	4,943	4,783	
Month	206,429	180,964	154,287	143,160	153,233	143,490	981,563
Walters—							
Daily average	1,066	1,000	1,105	1,041	1,178	1,062	
Month	33,046	28,000	34,255	31,230	36,518	31,860	194,909
Kilgore—							
Daily average	336	351	376	357	353	355	
Month	10,416	9,828	11,656	10,710	10,943	10,650	64,203
JEFFERSON COUNTY:							
Hambro, etc.—							
Daily average	1,961	2,104	2,485	2,551	2,402	2,410	
Month	60,791	58,912	77,035	76,530	74,462	72,300	420,030
CADDO COUNTY:							
Cement—							
Daily average	1,727	1,561	1,502	1,420	1,427	1,414	
Month	53,537	43,708	46,562	42,600	44,237	42,420	273,064
GARVIN COUNTY:							
Robberson—							
Daily average	2,134	2,098	2,123	2,073	2,091	2,010	
Month	66,154	58,744	65,813	62,190	64,821	60,300	378,022
GRADY COUNTY:							
Knox—							
Daily average	3,190	5,030	4,567	4,191	4,139	4,118	
Month	98,890	140,840	141,577	125,730	128,309	123,540	758,886
PONTOTOC COUNTY:							
Allen—							
Daily average	27,401	27,764	25,845	26,065	24,393	23,739	
Month	838,271	777,392	801,195	781,950	756,183	712,170	4,667,161
BECKHAM COUNTY:							
Sayre—							
Daily average	35	33	34	38	35	34	
Month	1,085	924	1,054	1,140	1,085	1,020	6,308
MARSHALL COUNTY:							
Madill—							
Daily average	182	221	203	186	174	183	
Month	5,642	6,188	6,293	5,580	5,394	5,490	34,587
Daily average	728,254	730,863	672,202	674,513	688,563	685,371	696,245
Total 1929	22,575,874	20,464,164	20,838,262	20,235,390	21,345,453	20,561,112	126,020,255
Total 1928	20,978,320	19,294,426	20,162,524	19,096,920	19,443,355	18,482,981	117,458,526
Total 1927	19,035,426	19,752,348	22,480,921	22,208,130	23,258,463	22,830,330	129,565,618
Total 1926	13,674,813	12,392,016	14,312,886	14,468,190	14,507,008	14,073,510	83,428,423
Total 1925	15,462,800	13,905,780	14,403,716	14,055,450	14,443,675	13,832,970	86,104,391
Total 1924	12,292,833	12,236,437	13,336,851	13,452,240	14,247,697	14,447,396	80,013,448
Total 1923	13,328,574	12,045,620	13,958,828	14,399,610	15,658,782	15,572,730	84,963,544



Enduro KA2

FREE FROM ALL EMBRITTLEMENT THROUGHOUT THE ENTIRE RANGE OF OPERATING TEMPERATURE

IN addition to its unequalled resistance to corrosion and oxidation losses, Enduro KA2, processed in accordance with Krupp specifications, is entirely free from embrittlement upon cooling down from protracted service at high temperatures.

This characteristic of embrittlement, usually evident in otherwise satisfactory materials, often precludes their use because of failures due to fracture or mechanical shock.

Because this defect is entirely absent in Enduro KA2, this new chrome-nickel-alloy is being widely adopted for cracking still tubes and other installations subject to high temperatures, and high pressures.

Metallurgists of the companies below will be glad to discuss Enduro KA2 with you and suggest many applications where this new chrome-nickel-alloy can be used to advantage.

ENDURO
NIROSTA
KA2 STEEL

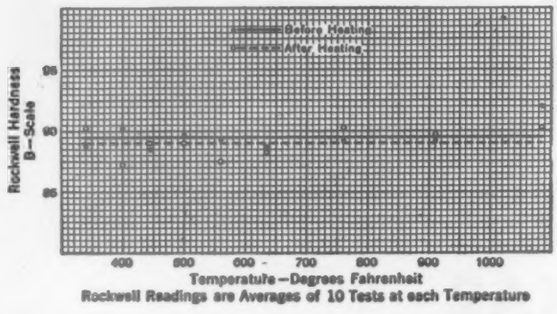
CENTRAL ALLOY STEEL CORP.
Massillon and Canton, Ohio

LUDLUM STEEL CO.
Watervliet, N. Y.

THE BABCOCK & WILCOX TUBE CO.
85 Liberty St., New York, N. Y.

ROCKWELL HARDNESS— ENDURO KA2

THE following Rockwell Hardness Test indicates the freedom of Enduro KA2 from the embrittlement which is detrimental to other materials throughout this distinct range:



Rockwell Readings are Averages of 10 Tests at each Temperature

The specimens were cooled down after having been held for 500 hours at the designated temperatures. Twist tests on Enduro KA2 carried out at Harvard University show no tendency to embrittle throughout the range of Temperatures from 1085° to 1472° F.

The complete story of this new alloy developed by Krupp metallurgists, and now produced in this country for American industry, is told in the booklet illustrated. Copies are available on request. Write for one today.

Enduro Nirosta KA2 Available in

Plates · Sheets · Bars · Strips . Forging Blanks · Shapes · Seamless Pipe and Tubing . Welding Rods · Castings · Wire

ENDURO NIROSTA KA2 STEEL

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85 Liberty St., New York, N. Y.

Two Areas Produced Most of Surplus

United States Produced 485,821,320 Bbls. in First Half of the Year, From Reduced Number of Wells

By James McIntyre

Had it been possible to control the production of two fields in the United States in the first half of this year there would have been no overproduction. Santa Fe Springs in California, which produced 6,832,955 bbls. in the first half of 1928, recorded a production of 32,838,856 bbls. in the first half of this year, the bulk of it coming from deeper sands than were penetrated a year ago. The St. Louis Pool in Oklahoma, was the largest producer in that State. Last year when the production of St. Louis, Pearson and Maud were all reported as one, the production was 2,673,093 bbls. in the first six months. In the same period this year the same area produced 23,404,459 bbls., an increase of 20,731,366 bbls. The two areas mentioned, one in California and the other in Oklahoma, had a combined increase of 46,737,267 bbls., while the increase in the whole United States was 49,382,683 bbls.

Of the major fields in the United States of which there are 75, 27 showed an increased production and 48 a decline in output.

The Joe Bruner Pool in Caldwell County, Texas; the Mission and Carr City Pools in the Greater Seminole area in Oklahoma, and the Wichita Field in Sedgwick County, Kansas, did not produce oil in the first half of last year. They were all important discoveries. The Goleta Pool was listed among California's pools, but Elwood was a product of the last half of 1928, and the area is known as the Elwood-Goleta Field.

The fields of the United States produced 485,821,320 bbls. of crude oil in the first six months of this year as against 436,438,637 bbls. in the first six months of 1928 and 444,738,797 bbls. in the same period in 1927. Compared with the first half of last year gains in production were shown in New York, Pennsylvania, Michigan, Indiana, Oklahoma, North Central Texas, West Texas, Gulf Coast, Southwest Texas, New Mexico and California, while declines were noted in Ohio, West Virginia, Illinois, Kentucky, Tennessee, Kansas, Texas Panhandle, East Central Texas, Arkansas, North Louisiana, Wyoming, Montana, New Mexico and Colorado. Of the latter class of fields, Kansas, in the last half of the year, is expected to so increase its production that it will be listed at the close of this year among the fields of increased production in 1929 over 1928 and the same may be said of the Texas Panhandle, while New Mexico is always threatening to spring forth with one or more big pool openers in Lea County.

The following table will show the extent of the decline and the increase in the different producing divisions, compared to the first six months of 1928:

Increase in Production

	Bbls.
New York	435,000
Pennsylvania	660,000
Michigan	1,062,000
Indiana	6,000
Oklahoma	8,561,729
North Central Texas	1,623,574
West Texas	7,323,348
Gulf Coast	3,478,119
Southwest Texas	7,198,678
New Mexico	140,143
California	28,922,567
Total increase	59,411,158

Decline in Production

Ohio	342,000
West Virginia	121,000
Illinois	156,000
Kentucky	169,000
Tennessee	12,000
Kansas	975,688
Texas Panhandle	1,218,526
East Central Texas	585,916
Arkansas	3,011,241
North Louisiana	1,669,318
Wyoming	1,415,921
Montana	253,607
Colorado	98,258
Total decline	10,028,475
Net increase	49,382,683

Ups and Downs of Pools

The following list of pools with their production in the first half of this year, together with the increases and decreases in production as compared with the first half of 1928 is of interest. It covers the most important producing areas in the country.

Increase in Production in Major Pools

	Prod. first 6 mos. 1929 bbls.	Increase Over same period in 1928 bbls.
California—		
Elwood-Goleta	4,450,301	4,415,112
Ventura Avenue	10,229,929	990,395
Santa Fe Springs	32,838,856	26,005,901
Long Beach	32,818,259	5,938,420
Seal Beach	7,313,380	202,229
Texas—		
Pecos County	16,450,014	7,558,111
Howard County	7,744,080	6,940,139
Gray County	5,365,600	1,836,271
Electra	2,439,488	125,447
Wilbarger County	4,840,394	2,434,389
Shackelford County	2,329,358	635,746
Barbers Hill	1,257,519	1,146,052
Dewalt	1,771,864	1,741,813
Pierce Junction	2,708,172	.....
Bruner	6,135,848	6,135,848
Mirando	2,272,641	1,043,075
Oklahoma—		
Pierson-St. Louis-Maud	23,404,459	20,731,366
Little River	15,005,650	7,727,874
Mission	4,431,325	4,431,325
Carr City	1,260,211	1,260,211
Allen	4,667,161	2,048,234
Cushing-Shamrock	3,186,316	15,901
Lovell-Marshall	2,364,752	1,445,062
Kansas—		
Sedgwick County	3,422,644	3,422,644
Louisiana—		
Hackberry Dome	1,098,130	695,922
Arkansas—		
Champagnolle	1,693,713	355,655
Pennsylvania—		
Bradford (Est.)	3,077,000	437,500

Decline in Production in Major Pools

	Prod. first 6 mos. 1929 bbls.	Decrease from same period in 1928 bbls.
California—		
Kern River	2,892,272	179,919
Midway-Sunset	12,517,444	1,304,605
Elk Hills	3,236,058	1,085,482
Coalinga	1,759,301	984,040
Fullerton	2,388,250	518,858
Coyote	2,123,956	365,698
Montebello	1,922,151	353,373
Richfield	2,998,324	580,396
Huntington Beach	8,182,505	1,983,422
Torrance	3,571,133	836,265
Dominguez	1,887,326	406,066
Inglewood	4,510,174	991,411
Texas—		
McCamey-Taylor	1,767,486	669,323
Church-Fields	4,872,847	4,587,484
McElroy	2,255,876	801,919
Winkler County	28,065,677	629,681
Reagan County	3,177,768	690,738
Hutchinson County	4,385,045	3,125,914
Burkburnett	1,892,715	109,209
Archer County	3,116,313	655,148
Montague County	1,253,033	392,584
Young County	1,177,630	306,879
Brown County	1,489,863	738,491
Eastland-Stephens	2,159,037	549,746
Hull	1,752,754	416,199
Spindletop	5,767,000	1,267,239
Luling	2,258,362	305,862
Powell	1,551,132	613,129
Mexia	992,200	343,878
Oklahoma—		
Burbank	4,027,317	2,912,573
Seminole City	6,298,118	3,543,098
Bowlegs	6,630,574	6,824,179
Earlsboro	11,297,307	7,266,989
Searight	1,869,279	1,221,393
Cromwell	1,442,870	361,504
Bristow	2,446,396	483,881
Tonkawa	1,861,990	769,638
Garber	1,053,514	537,303
Healdton	2,265,162	280,135
Hewitt	1,500,296	160,210
Sholom Alechem	2,361,754	313,606
Kansas—		
El Dorado-Augusta	4,552,133	125,293
Greenwood County	3,803,441	1,427,885
Sumner County	2,362,936	2,113,855
Louisiana—		
Caddo	2,096,364	513,550
Arkansas—		
Smackover	10,198,217	3,005,725
Wyoming—		
Salt Creek	5,567,860	1,685,926
Montana—		
Kevin-Sunburst	1,065,561	651,289

It will be noted that while most of the talk of overproduction has been directed at the fields of Oklahoma, California and West Texas, an area that was given less general attention, Southwest Texas registered a gain of 7,198,678 bbls. over the same period last year, while West Texas registered a gain of 7,323,348 bbls., or not a great deal more than its southern neighbor. Oklahoma increased 8,561,729 bbls. but it was left for California to present the greatest gain in production of any of the divisions listed. Increases in New York and Pennsylvania may be attributed to the repressuring of old fields and not to new pools.

Texas led in production in the first six months with a total of 145,067,091 bbls.; California was second with 141,884,413 bbls.; and Oklahoma stood third with 126,020,255 bbls. In the first half of last year Texas led with a total of 123,976,610 bbls.; Oklahoma second with 117,458,526 bbls., and California third with 112,961,846 bbls.

Big Gains in Oklahoma

Compared with the production in the first half of last year there were a number of notable increases in several states. The St. Louis-Pearson-Maud area in Pottawatomie County, Oklahoma, showed an increase of 20,731,366 bbls. and the Little River Pool in Seminole County an increase of 7,727,874 bbls. and the Mission Pool in Pottawatomie County 4,431,325 bbls. The Allen Pool in Pontotoc and Seminole Counties increased 2,048,234 bbls. over the same period last year and Lovell-Marshall in Logan County gained 1,445,062 bbls.

Pecos County's Increase

There was no such gain in Texas as that registered by the St. Louis-Pearson-Maud area, above mentioned. The Yates Pool in Pecos County, West Texas, increased 7,448,111 bbls. over its record in the first half of last year and Howard-Glasscock County gained 6,940,139 bbls. with the rapid development of the Chalk-Settlee Pool. The Joe Bruner, or Salt Flats, Pool in Caldwell County, Southwest Texas, increased from nothing to 6,135,848 bbls. and will produce much more than that in the last half of the year. Wilbarger in the North Texas area registered 2,434,389-bbl. gain and Gray County unexpectedly burst into the select list with an increase of 1,836,271 bbls., while other Panhandle fields were steadily on the down grade. In Kansas, the Wichita Field, made up of numerous pools developed recently in Sedgwick County, increased from nothing to 3,422,644 bbls. There were no notable increases in Louisiana or Arkansas, in fact the only pool to show an increase in Louisiana was Hackberry Dome in the coastal region with a gain of 695,922 bbls. while in Arkansas, Champagnolle with an increase of 355,655 bbls. stood alone. The Muskegon Field in Michigan should be placed in the list showing noteworthy gains but because Michigan production was not listed by pools it is impossible to exactly register the increase over last year. The Muskegon and the Midland Pools will produce more oil in

(Continued on Page 211)

SUMMARY OF CRUDE OIL PRODUCTION IN UNITED STATES FIRST SIX MONTHS OF 1929

	1925 Prod. first 6 mos., bbls.	1926 Prod. first 6 mos., bbls.	1927 Prod. first 6 mos., bbls.	1928 Prod. first 6 mos., bbls.	1929 Prod. first 6 mos., bbls.	No. oil wells June 30	Av. daily prod. per well, 6 mos.
New York	767,000	922,000	1,101,000	1,174,000	1,609,000	14,360	.62
Pennsylvania	3,828,000	4,236,000	4,750,000	4,829,000	5,489,000	78,675	.38
Ohio	3,480,000	3,583,000	3,842,000	3,594,000	3,252,000	40,160	.45
West Virginia	2,854,193	3,746,000	3,022,000	2,881,000	2,760,000	18,700	.82
Kentucky	3,443,200	3,072,000	3,209,000	3,633,000	3,464,000	14,900	1.28
Michigan	.....	17,000	216,000	211,000	1,273,000	476	14.78
Tennessee	5,400	22,700	26,500	24,000	12,000	.....	.....
Indiana	423,000	385,500	409,000	496,000	502,000	2,650	1.47
Illinois	3,890,000	3,848,000	3,587,000	3,223,000	3,067,000	4,000	.42
Kansas	17,451,868	19,676,445	21,455,000	19,760,362	18,784,674	20,079	5.17
Oklahoma	86,104,391	83,428,423	129,565,618	117,458,526	126,020,255	57,385	12.13
North Central Texas	21,967,120	22,721,170	30,023,634	23,546,887	25,170,461	21,746	6.38
West Texas	3,462,827	6,394,519	15,915,827	58,209,778	65,533,126	2,256	160.49
Texas Panhandle	500,590	3,255,532	22,925,094	13,074,052	11,855,526	1,507	43.46
East Central Texas	27,138,924	10,536,616	7,673,768	4,298,691	3,712,775	1,193	16.10
Gulf Coast	16,765,034	17,779,409	28,274,834	23,276,495	26,754,614	2,682	55.11
Southwest Texas	8,263,639	7,101,772	6,713,732	4,840,921	12,039,599	3,626	18.34
Arkansas	38,277,670	31,037,486	21,742,314	16,443,803	13,432,562	3,792	19.57
North Louisiana	9,080,338	9,339,472	9,068,817	8,118,780	6,449,462	3,487	10.22
Wyoming	14,223,500	13,472,498	10,779,747	10,561,844	9,145,923	3,470	14.57
Montana	1,429,835	3,741,345	2,073,040	2,063,213	1,809,606	1,217	8.22
Colorado	376,186	1,237,624	1,398,539	1,353,756	1,255,498	186	36.28
New Mexico	305,130	735,466	773,105	404,683	544,826	245	12.29
Utah	.....	.....	8,600	.....	.....	.....	.....
California	110,307,256	110,087,644	116,184,628	112,961,846	141,884,413	10,305	76.06
Total	374,345,101	360,395,621	444,738,797	436,438,637	485,821,320	307,037	8.74

California Deep Sands Yield Richly

Production of 141,984,413 Bbls. in Six Months Exceeded but Once. Gas Conservation Law Only Hope of Curtailment

By L. P. Stockman
Staff Correspondent, California Fields

California continued to occupy a prominent place in the spotlight during the first half of the current year and would undoubtedly prove to be a very disturbing factor for the next several years if drilling and production activities were allowed to continue unabated.

The recently enacted gas conservation law, is expected to stabilize conditions by preventing surplus production of natural gas, provided that the bill is not voided by impending litigation. Application of this measure, which becomes effective August 31, should reduce State production of crude oil and natural gas later in the year and prevent a repetition of previous chaotic conditions by regulating future development work in any prolific fields that may be discovered. The only disconcerting feature in connection with the new gas law is the possibility that it may be found unconstitutional, in which event the oil industry will again be at the mercy of careless operators.

It is a foregone conclusion that the gas conservation law will be contested at an early date, and may be declared discriminatory unless a number of concessions are made by major producers. The most important concession is the absolute necessity of affording every operator a legitimate portion of commercial gas sales either by pooling contracts covering sales of natural gas to public utilities or some other equitable means of spreading the burden. It is believed that every legitimate effort will be made by major companies to prevent the law from being declared unconstitutional but to accomplish the desired results, everyone must co-operate to the fullest degree.

Aims to Prevent Gas Waste

The gas conservation law, which is an amendment to the California Water Infiltration Act, has been commented on in detail on several occasions, but it might not be amiss to call attention again to the fact that no attempt has been made to regulate the production of crude oil. It is primarily a conservation measure and contemplates the regulation of natural gas production exclusively in order to eliminate the blowing of this commodity into the air. It is quite obvious that any reduction in the production of natural gas will be sympathetically reflected in a drop in crude oil production in as much as all gas produced in California at the present time comes from oil fields. Only one commercial gas field has been developed in California up to the present and while that area will ultimately become an important factor in future economic conditions on the Pacific Coast it has not yet contributed to the overproduction of natural gas. The Milham Exploration Co. has already finished 10 commercial gas wells in the Buttonwillow gas field but all of them were shut in immediately upon completion due to the absence of adequate pipe line facilities to move this potential production to commercial markets.

Fluid Stocks Increase

In spite of conservation activities during the first half of the current year, total fluid stocks on the Pacific Coast increased 25,269,505 bbls. during this period. Heavy production of light refinable crude in flush fields, notably Santa Fe Springs and Elwood, resulted in the addition of 15,340,201 bbls. of light crude, stocks rising from 17,954,434 bbls. on January 1, 1929, to 33,294,635 bbls. on hand at the close of June. Gasoline stocks also reflected the development of substantial production in flush fields as 3,499,382 bbls. of motor fuel were accumulated during the first half of the year. On January 1 marketers held 10,766,410 bbls. in storage but on June 30 this had risen to 14,265,792 bbls. Naphtha distillates, tops, the storage of which at one time in 1924 aggregated 14,065,497 bbls., increased from 1,541,414 bbls., on hand at the beginning of 1929, to 2,901,460 bbls. at the close of June.

During the overproduction situation in 1923 and 1924 refiners on the Pacific Coast almost generally adopted the policy of topping their pipe line runs of light refining crude on the assumption that it was more economical to store the tops in steel tanks and put residuum in concrete-lined reservoirs instead of building new steel tanks for raw crude. The inability to adequately cope with the ever-rising flood of light crude oil justified this practice at that time as it reduced evaporation losses to a minimum and provided cheaper storage costs for refinery residuum, which composes by far the largest refined product from crude oil. Refiners subsequently came to the conclusion, however, that this practice was not especially desirable since it involved a double handling in order to convert the naphtha distillates into motor gasoline. In order to eliminate this rerunning of oil, stocks of naphtha distillates were consistently reduced from the peak storage of 14,065,497 bbls. on hand June 30, 1924, down to 1,184,998 bbls. held on August 31, 1928. Stocks of naphtha distillates are again increasing and have shown a consistent increase from month to month since the low point was reached in August of last year. There were 1,541,414 bbls. of naphtha distillates in storage on January 1, 1929, and 2,901,460 bbls. on June 30, an increase of 1,360,046 bbls. during the first six months of the current year. Stocks of fuel oil, which consists of refinery residuum and unrefinable heavy crude, continued to accumulate, a total of 4,178,131 bbls. having been added to storage in the first half of 1929. Fuel oil has been consistently accumulating for a number of years and the 104,428,124 bbls. on hand June 30, 1929, is by far the largest amount of heavy oil ever held on the Pacific Coast. Light refinable crude, on the other hand, is at present 11,855,031 bbls. less than the peak storage of light crude oil, which approximated 45,149,666 bbls. on May 31, 1925. Gasoline stocks are within striking distance of the peak storage and may exceed the high point unless the new gas conservation law operates against the attainment of this record by reducing production in the latter part of the year.

Santa Fe Springs Dominated

Crude oil production in California during the first half of 1929 totaled 141,984,413 bbls., exceeding by far the output chalked up during any similar period in history. It has only been exceeded on one other occasion, and, by a strange coincidence, Santa Fe Springs was the dominating factor in each instance. The State record was established in 1923 when simultaneous development of the Santa Fe Springs, Long Beach and Huntington Beach Fields resulted in the stupendous production of 146,338,069 bbls. during the last six months of that year and 263,728,895 bbls. for the entire 12 months of 1923. If it were not for the recently enacted gas conservation law, which will become operative September 1, together with successful conclusion of conservation activities in the Kettleman Hills Field of Kings County, production during 1929 would establish a new record peak for California, which preliminary estimates early this year indicated would reach 270,000,000 bbls. Kettleman Hills has been taken out of the picture for a two-year period expiring July, 1931, however, and the total production for the current year will therefore be considerably less than anticipated.

Possibility of Reduction

If the validity of the gas conservation bill is sustained by court action crude oil production in California will be substantially reduced. One of the most interesting features in connection with the importance of this conservation measure is the fact that it will reduce production in fields producing light refinable crude. Santa Fe Springs, Elwood, Long Beach and Ventura Avenue especially will all be affected to a substantial degree. Fields producing heavy oil are not expected to be adversely influenced by the new law as it is strictly a gas conservation measure and will therefore be especially effective in flush areas yielding light re-

CALIFORNIA FIELD OPERATIONS BY DISTRICTS FOR FIRST HALF 1929

District—	Oil wells comp. No.	Oil wells comp. Bbls. dly.	No. oil wells Drlg.	No. oil wells Prod.	Abandoned Drillers	Abandoned Producers	New rigs
Kern River	17	4,180	6	1,105	6	9	28
Mount Poso	33	7,091	6	8	6	..	29
Fruitvale	10	5,068	4	2	..	..	7
Round Mountain	7	1,885	3	2	..	..	11
McKittrick	..	....	1	282	2	..	2
Midway-Sunset	42	12,177	24	2,290	8	33	58
Elk Hills	..	....	1	207	..	3	..
Lost Hills-Belridge	16	474	4	319	1	4	15
Coalinga	..	....	..	770	..	5	1
Kettleman Hills	..	....	19	1	..	..	35
Wheeler Ridge	..	....	..	33	..	..	..
Watsonville	..	....	..	6	..	..	..
Santa Maria	2	450	4	227	..	..	4
Summerland	..	....	2	89	1	..	4
Elwood-Goleta	7	28,593	5	10	3	2	6
Santa Barbara	1	1,000	4	1	..	..	45
Rincon	6	1,420	6	27	7	..	3
Ventura Avenue	27	39,608	45	157	..	..	36
Ventura-Newhall	1	175	26	508	4	4	12
Los Angeles-Salt Lake	..	....	..	316	..	..	..
Whittier	..	....	..	163	1	..	..
Fullerton (Brea Olinda)	2	535	5	374	1	1	2
Coyote	1	210	2	207	2	..	4
Santa Fe Springs	150	486,892	166	391	5	16	171
Montebello	3	315	2	171	1	..	4
Richfield	7	2,541	8	272	1	5	16
Huntington Beach	9	1,467	6	558	5	11	12
Long Beach	112	95,136	102	913	9	19	76
Torrance	..	....	..	597	..	3	..
Domingues	..	....	1	70	..	..	1
Rosecrans	3	1,780	4	97	2	6	6
Inglewood	1	735	..	222	..	..	2
Newport	..	....	1	4	2	..	..
Seal Beach	9	11,533	6	142	2	5	9
Potrero	3	575	5	3	1	..	7
Lawndale	5	2,522	29	3	18	..	83
Miscellaneous	..	....	137	..	46	..	76
Total	473	706,362	634	10,547	134	125	765

CALIFORNIA
PRODUCTION OF CRUDE BY DISTRICTS, JANUARY TO JUNE, INCLUSIVE, 1929

Districts—	January	February	March	April	May	June	Total	Daily	Total to date
Kern River	560,451	496,000	486,393	481,746	432,389	435,293	2,892,272	15,979	274,001,002
Mount Poso	2,914	3,067	1,022	1,529	103,122	145,124	256,778	1,419	351,032
Fruitvale	26,828	20,069	10,768	7,050	30,374	49,724	144,813	800	295,602
Round Mountain	1,277	745	2,019	1,164	3,093	1,346	9,644	53	62,799
McKittrick	153,766	139,936	151,236	146,244	131,496	129,571	852,249	4,708	78,126,464
Midway-Sunset	2,244,925	1,978,609	2,211,223	2,106,721	2,037,926	1,938,040	12,517,444	69,157	656,724,320
Elk Hills	590,986	525,604	572,333	555,536	536,362	455,237	3,236,058	17,879	104,977,497
Lost Hills-Belridge	135,170	126,046	138,653	133,021	136,024	132,271	801,185	4,427	59,497,961
Coalinga	299,863	282,826	310,438	297,592	288,975	279,607	1,759,301	9,720	310,983,244
Kettleman Hills	124,491	96,622	106,700	114,237	104,572	99,154	645,776	3,568	845,475
Wheeler Ridge	23,986	21,649	22,667	22,019	20,476	18,833	129,630	716	2,021,621
Watsonville	1,937	1,750	1,937	1,825	1,937	1,875	11,261	62	1,250,400
Santa Maria	152,299	145,071	146,078	144,730	133,375	119,208	840,761	4,645	124,400,931
Summerland	3,770	3,375	3,735	3,615	3,738	3,690	21,923	121	2,752,158
Elwood-Goleta	517,323	605,245	800,400	857,740	876,728	792,865	4,450,301	24,587	5,432,293
Santa Barbara	.....	.....	.....	.....	1,510	.....	1,510	8	1,510
Rincon	110,729	91,297	108,757	97,434	110,496	102,578	621,291	3,433	1,709,949
Ventura Avenue	1,678,732	1,553,422	1,677,525	1,660,666	1,881,463	1,778,117	10,229,925	56,519	72,999,459
Ventura-Newhall	175,581	156,593	169,104	155,208	149,320	146,271	952,077	5,260	44,635,035
Los Angeles-Salt Lake	46,418	41,616	43,540	44,990	48,058	46,833	271,455	1,500	62,268,381
Whittier	48,652	44,198	50,343	45,753	44,788	46,037	279,771	1,546	13,794,380
Fullerton (Brea Olinda)	441,236	372,224	415,592	395,605	388,966	374,627	2,388,250	13,195	130,383,724
Coyote	385,048	352,508	377,759	343,626	347,353	317,662	2,123,956	11,735	118,274,639
Santa Fe Springs	4,759,671	5,300,380	5,275,300	4,749,940	5,629,580	7,123,985	32,838,856	181,430	217,924,703
Montebello	341,035	311,905	340,807	325,758	316,658	285,988	1,922,151	10,620	82,066,714
Richfield	561,458	488,237	532,843	478,996	489,294	457,491	2,998,324	16,565	58,205,029
Huntington Beach	1,489,113	1,314,567	1,429,927	1,342,491	1,343,277	1,263,130	8,182,505	45,207	154,737,241
Long Beach	5,635,018	5,163,028	5,815,757	5,703,055	5,430,851	5,070,550	32,818,259	181,316	355,500,914
Torrance	460,849	424,385	444,481	435,147	422,242	384,029	2,571,133	14,205	61,806,758
Dominguez	317,816	303,958	339,816	322,241	312,155	291,341	1,887,326	10,427	40,141,612
Rosecrans	222,342	191,350	212,147	192,105	180,041	180,961	1,178,946	6,514	21,066,715
Inglewood	833,875	730,497	791,027	742,326	734,116	678,333	4,510,174	24,918	63,773,498
Newport	1,700	1,540	2,100	1,200	1,145	1,200	8,885	49	100,150
Seal Beach	988,240	975,419	1,295,115	1,339,792	1,315,269	1,399,545	7,313,380	40,405	3,676,787
Potrero	23,954	16,678	22,397	20,750	17,006	22,233	123,018	680	230,969
Lawndale	34,487	20,291	24,785	23,268	49,176	51,878	193,825	1,071	209,511
Total	23,385,939	22,300,707	24,324,729	23,295,060	24,053,351	24,624,627	141,984,413	784,444	3,158,315,477

Two new Sullivan Diamond Drills, ready for the field

Sullivan "21" Diamond Drill mounted on truck, with self-contained derrick, testing structure in Oklahoma. Oval insert shows the drilling crew.

—with guess work in oil finding being replaced so rapidly by Sullivan Diamond Drill Structure testing, deep tests, and production drilling - - - - operators will watch these new drills—

Sullivan "21"

Sullivan "21" is a remarkable combination of power, with light weight and portability. It will drill 2-1/16-in. holes and take 1-3/8-in. core to 500 feet, or drill 2-13/16-in. holes taking 2-in. core to 300 feet.

Yet the drill with engine and pump, and mounted on steel frame and skids, weighs only 2600 lbs. It can be dragged anywhere by teams or tractor.

A new twin hydraulic cylinder swivel head was built especially for this drill. It is operated by gear pump, with closed circulation. The piston has a travel of 12 inches. The swivel head swings on hinge to allow ample room for working on the hole.

Two drilling speeds are available and rods can be hoisted at 65, or 110 f.p.m. A 12-H.P. gasoline engine is generally furnished, but the drill is adapted also to steam, or electric power. A 3x4 duplex pump is supplied, with mud valves.

Many new features are described in the new *catalog No. 1580-E.* Why not send for it?

Sullivan "40" Diamond Drill.

Sullivan "40"

Sullivan "40" replaces the famous "CN" structure drill, which has many records to its credit. The first "CN" has made more than 135,000 feet of hole. Another, recently, in one month, moved sixteen times from one to three miles, and drilled 6900 feet of hole.

Yet, successful as the "CN" was, Sullivan "40" is superior to it in many ways. It drills a 3-in. hole (2-in. core) to 1200 feet; or a 2-in. hole (1⅛-in. core) to 2200 feet. It is shorter and weighs only 8300 lbs.

The hydraulic swivel head has a feed of 18 inches. The drill can be run back off the hole eighteen inches, on its tracks. It is readily adapted for use with a Kelly for rapid fish tail work. The hoist picks up, holds, or lowers a load of 3000 lbs. at a touch of the fingers.

The engine is 50% more powerful than that used on the older "CN".

Four drilling and four hoisting speeds are available. The wagon mounting is sturdy, and close coupled so it can be turned around in cramped quarters.

A complete description is in a new *catalog, No. 85-F.*

S U L TRADE L MARK I V A N

Sullivan Machinery Company

Dallas, Tulsa, Garber, Okla.; San Francisco

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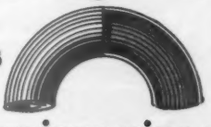
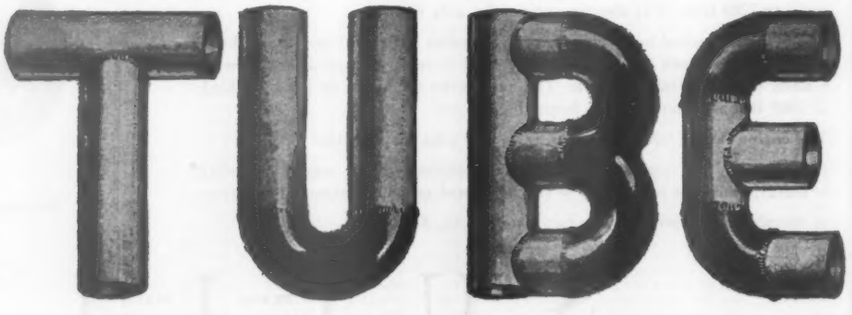
The first *Stock* for

WHAT THEY ARE

TUBE-TURNS are *not* pipe bends but fittings forged under heat and pressure from seamless steel tubing of a smaller size **They are formed on a radius of *one-and-one-half* pipe diameters** **There is no thinning of the outside wall** **no buckling of the inside wall** **no flattening of the pipe section and no variation in wall thickness**  **They are made in all standard and extra-heavy iron pipe sizes from 1 inch** **to 20 inches** **They are stocked as 90-degree elbows** **and 45-degree elbows** **and as 180-degree returns** **TUBE-TURNS of special sizes and of other materials and radii are made to order in quantity lots.**



Fittings Welded Piping

Screwed Fittings

Flanged Fittings

Mitre-Welded Turns

TUBE-TURNS

TUBE-TURNS *are fully protected by U. S. patents issued Sept. 21, 1920.*

BY providing a stock fitting for welded piping, TUBE-TURNS have simplified and improved this modern method of pipe fabrication and widened its field of usefulness.

Replacing cast fittings TUBE-TURNS provide greater strength and thus greater safety at high temperatures and pressures. Their resistance to line strains is equal to that of the pipe, yet they are lighter in weight than cast fittings.

Offering less resistance to flow than either screwed or flanged fittings, they increase pipe efficiency by reducing pressure drop.

Replacing built-up 3- and 4-weld mitred turns, they save erection time and labor costs since only *two welds straight across the pipe* are required for any change of direction.

TUBE-TURNS

INCORPORATED

1252 Logan St., *Louisville, Ky.*

Chicago, 110 S. Dearborn St. *Philadelphia,* Bourse Building

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finable crude and considerable quantities of natural gas.

It is to be hoped that the new gas conservation law will be upheld by judicial decision and enforced at an early date as it is one of the most progressive pieces of legislation enacted in any producing territory up to the present time. It should be of particular importance to producers of heavy oil who have been severely penalized during the past eight years by being forced to shut down because of the overproduction of light refining crude. A rigid enforcement of this measure will automatically decrease State production to a very substantial extent and probably permit producers of heavy oil to partially resume production. If production of light refining crude is substantially reduced in order to conserve natural gas, and production of heavy crude resumed this may stimulate cracking operations which are reduced to a minimum during periods of overproduction. Almost 100,000 bbls. per day of heavy oil has been curtailed in California for the past several years, due to existing low prices and the inability of marketers to dispose of fuel oil. Heavy crude and fuel oil stocks have increased 4,178,131 bbls. during the first half of the current year but it must be remembered that the greater part of this increase is refinery residuum and can be attributed to the high operating status of the various refineries which have been working almost to capacity in order to meet the heavy gasoline demand incident to increased shipments to the Atlantic Coast and foreign ports.

A Consistent Upward Trend

Crude oil production in California has shown a consistent upward trend since January 1, 1928, and this 18 months' period was fittingly climaxed with the highest monthly production on record since September, 1923, when State production averaged 858,750 bbls. Production in June, 1929, totaled 24,624,627 bbls. and averaged 820,821 bbls. per day. It might not be amiss to mention the fact that current daily production is nearing 900,000 bbls. per day, notwithstanding an additional 135,704 bbls. per day is shut in. Potential daily production on July 20, with everything wide open and all curtailment restrictions lifted, exceeds 1,000,000 bbls. Crude oil production averaged 784,444 bbls. per day during the first half of the current year, as compared with an average of 633,832 bbls. per day during the entire year of 1928. There was an average of 132,878 bbls. per day shut in during the past six months, indicating the fact that California could have produced 917,322 bbls. per day during the first half of 1929 in spite of the proration program which was in force between April 22 and June 15.

Long Beach a Factor

One of the most interesting sidelights in connection with production statistics during the first six months of 1929 is the fact that Long Beach produced almost as much oil as Santa Fe Springs. The former field yielded 32,818,259 bbls. during the six months' period just ended, as compared with 32,838,856 bbls. for Santa Fe Springs, a difference of only 20,597 bbls. This rather surprising coincidence can be explained by the fact that Santa Fe Springs opened the year on a wave of ascending production, while Long Beach was declining. Long Beach and Santa Fe Springs produced 5,635,018 bbls. and 4,759,671 bbls., respectively, during January, 1929, and 5,070,550 bbls. and 7,123,985 bbls. during June. Daily production at Long Beach has been unusually stable during the past year due to the enormous thickness of oil-bearing formation, which on top of the structure approximates 2,500 feet of almost unbroken oil sand. This field, opened up by the Shell Oil Co. late in 1921, has produced a total of 355,500,914 bbls. of crude oil since discovery. Santa Fe Springs, on the other hand, has only produced 217,924,703 bbls. since discovery by the Union Oil Co. It must be remembered, however, that the Long Beach Field has enjoyed its maximum development while Santa Fe Springs is just opening its deep-zone exploitation. It is not likely, however, that the ultimate production from Santa Fe Springs will ever reach that shown by the Long Beach Field because of less favorable saturation and smaller reservoir storage.

America's Largest Producer

Although the Midway-Sunset Field of Kern County only produced 12,517,444 bbls. of crude oil during the first half of the current year, approximately one-third the amount shown by either Santa Fe Springs or Long Beach during the same period, this area heads the production list as far as actual production to date is concerned. This field has yielded 656,724,320 bbls. of crude oil since discovery and will still be going strong for many years to come. Drilling operations in the Maricopa Flats section of the Midway-Sunset Field during the current year resulted in the discovery of a new oil sand out beyond production and the recent completion of a 4,000-bbl. well by the North American Consolidated confirms the expectation that several hundred acres in the immediate locality will ultimately be found productive. Acreage in this localized area, however, is held in exceptionally large blocks, which precludes intensive development, and will therefore be drilled according to well-established principles of oil field practice. The Signal Oil & Gas Co.'s discovery well was really finished late in 1928 but the relatively small production secured at that time, a few hundred barrels daily, did not stimulate development work. The company's No. 2 Sheehan, however, which blew in this year flowing better than 1,000 bbls. per day, proved the necessary stimulant and an extensive exploration campaign was immediately undertaken.

One New Field This Year

One new field was opened in California in the first half of the year. To the Olympic Oil & Refining Co. goes the credit for finding the first new field in 1929. This discovery was made along the ocean front up on the Santa Barbara mesa, located approximately 3 miles southwest of the city of Santa Barbara. Development work up to the present time indicates that this field will be unimportant, in fact production has already been defined on three sides of the discovery well. The productive area is expected to be very limited and it is exceedingly doubtful if it will ever pay out. Productive limits have been definitely established on the north, east and south as far as the present zone is concerned and, while subsequent drilling may extend the western limits of production, this possibility does not look any too hot. Another important development in California during the current year to date was the discovery of a second producing horizon in the Summerland Field of Santa Barbara County a few weeks ago. The Lincoln Drilling Co.'s No. 1 Williams, the instrumentality through which this new sand was discovered, showed an initial daily production of 400 bbls. from 1,250 feet. The oil at Summerland, like that of the recently discovered Santa Barbara Field, is of a heavy grade averaging around 19 degrees A.P.I. Several wells have subsequently been started near the Lincoln's initial completion at Summerland and it is possible that deeper drilling may result in the discovery of light oil.

Record Breaking Activity

Drilling operations in California during the first half of 1929 greatly exceeded past averages and development work will undoubtedly continue at an excessive rate for the rest of the year. There were 473 producing wells finished in California during the past six months, exclusive of dry holes, as compared with previous highs of 688 for the first six months of 1924 and 531 during a similar period of

(Continued on Page 242)

TOTAL FLUID STOCKS HELD ON THE PACIFIC COAST
(Barrels)

	Heavy crude and fuel	Refinable crude	Gasoline	Naphtha distillates	All other stocks	Total all stocks
1928—						
January 31	95,621,539	20,784,053	13,897,623	1,820,900	9,251,941	141,376,056
February 29	96,239,379	20,676,318	14,247,079	1,845,109	9,137,790	142,195,675
March 31	95,880,671	20,215,892	14,779,259	1,633,736	9,268,718	141,778,186
April 30	95,398,359	19,685,626	14,734,542	1,778,981	9,122,118	140,719,626
May 31	94,889,736	19,875,112	14,195,792	1,745,312	9,359,507	140,056,459
June 30	95,284,117	19,955,030	14,000,661	1,595,566	9,643,973	140,479,347
July 31	96,418,224	19,041,594	12,908,549	1,429,410	9,955,530	139,753,307
August 31	95,781,762	19,205,105	11,683,443	1,184,998	10,588,689	138,443,997
September 30	97,690,674	17,730,034	11,351,695	1,255,309	10,079,930	138,107,642
October 30	98,325,820	17,323,160	10,626,268	1,285,014	9,763,667	137,323,929
April 30	101,900,145	27,766,755	14,113,736	1,933,402	9,667,253	155,381,291
November 30	98,684,553	17,243,243	10,802,366	1,480,812	9,418,103	137,629,929
December 31	100,249,993	17,954,434	10,766,410	1,541,414	9,488,643	140,000,894
1929—						
January 31	99,869,306	20,118,907	12,057,326	1,644,474	9,921,944	143,611,057
February 28	100,778,348	23,081,832	12,290,690	1,825,502	9,965,232	147,941,604
March 31	101,981,165	25,172,456	13,310,923	1,970,157	9,595,257	152,029,958
May 31	102,921,746	30,455,514	14,108,752	2,233,956	10,074,839	159,794,809
June 30	104,428,124	33,294,635	14,265,792	2,901,460	10,380,388	165,270,399

*1,179,865 bbls. previously reported as refinable crude, were transferred in August to heavy crude and fuel stocks.

†Includes 800,000 bbls. heavy crude not previously reported. This represents the working stock of a pipe line company and has been a constant figure in the past.

Note—8,214,864 bbls of crude oil, fuel oil, tops and gasoline were destroyed by lightning fires at Kern River, San Luis Obispo and Brea during April, 1926. Segregation of various commodities destroyed not available. The figures shown above cover actual physical stocks on hand at the end of each month.

CALIFORNIA CRUDE OIL PRICES, FIRST SIX MONTHS, 1929
Standard Oil Co.-Union Oil Co.

Gravity—	Salt Lake, Potrero, Newport, Long Beach, Summerland, Lawndale, Los Angeles, Fullerton, Richfield, Torrance, Olinda-Brea, Alamitos Heights, Signal Hill, Seal Beach, Huntington Beach, Athens, Inglewood, Rosecrans-Dominguez, Watsonville. (1) Jan. 1	(1) 18	Whittier, La Habra. (2) Jan. 1	(2) 18	Midway-Sunset, Elk Hills, Lost Hills, Belridge, Buena Vista Hills. (3) Jan. 1	(3) 18	Coyote (4) Jan. 1	(4) 18	Santa Fe Springs (5) Jan. 1	Santa Maria, Coalinga (6) Jan. 1	(6) 18	Fruitvale, Wheeler Ridge (7) Jan. 1	(7) 18	Ventura Ave. (8) Jan. 1	(8) 18	Montebello (9) Jan. 1	(9) 18	Rincon, Orcutt (10) Jan. 1	(10) 18	Kern River, Newhall, McKittrick. (11) Jan. 1	(11) 18	Elwood Terrace (12) Mar. 18
14 to 14.9	.85	.70	.85	.70	.75	.50	.85	.70	...	.75	.50	.75	.50	.85	.70	.85	.70	.85	.65	.75	.50	...
15 to 15.9	.85	.70	.85	.70	.75	.50	.85	.70	...	.75	.50	.75	.50	.85	.70	.85	.70	.85	.65	.75	.50	...
16 to 16.9	.85	.70	.85	.70	.75	.50	.85	.70	...	.75	.50	.75	.50	.85	.70	.85	.70	.85	.65	.75	.50	...
17 to 17.9	.85	.70	.85	.70	.75	.50	.85	.70	...	.75	.50	.75	.50	.85	.70	.85	.70	.85	.65	.75	.50	...
18 to 18.9	.85	.75	.85	.75	.75	.56	.85	.75	...	.75	.56	.75	.56	.85	.75	.85	.70	.85	.70	.75	.56	...
19 to 19.9	.85	.80	.85	.80	.75	.62	.85	.80	...	.75	.62	.75	.62	.85	.80	.85	.75	.85	.70	.75	.62	...
20 to 20.9	.85	.85	.85	.84	.77	.68	.85	.84	...	.77	.68	.77	.68	.85	.85	.86	.80	.85	.70	...	...	...
21 to 21.9	.89	.89	.88	.88	.79	.74	.88	.88	.89	.79	.74	.79	.74	.86	.86	.89	.85	.86	.86	...	...	...
22 to 22.9	.93	.93	.91	.91	.82	.80	.91	.91	.92	.82	.80	.82	.80	.87	.87	.92	.90	.87	.87	...	...	...
23 to 23.9	.97	.97	.94	.94	.86	.85	.94	.94	.95	.85	.85	.85	.85	.90	.90	.95	.95	.90	.90	...	...	...
24 to 24.9	1.01	1.01	.97	.97	.90	.90	.97	.97	.98	.88	.88	.88	.88	.94	.94	.98	.98	.93	.94	...	...	...
25 to 25.9	1.05	1.05	1.00	1.00	.95	.95	1.00	1.00	1.01	.91	.91	.91	.91	.98	.98	1.01	1.01	.95	.98	...	...	...
26 to 26.9	1.09	1.09	1.04	1.04	1.00	1.00	1.04	1.04	1.04	.94	.94	.94	.94	1.02	1.02	1.04	1.04	.97	1.02	...	...	...
27 to 27.9	1.13	1.13	1.08	1.08	1.05	1.05	1.08	1.08	1.07	.98	.98	.97	.97	1.06	1.06	1.07	1.07	...	...	...	...	...
28 to 28.9	1.17	1.17	1.12	1.12	1.10	1.10	1.12	1.12	1.10	1.02	1.02	...	...	1.10	1.10	1.10	1.10	...	...	...	...	...
29 to 29.9	1.21	1.21	1.16	1.16	1.16	1.16	1.16	1.16	1.15	1.06	1.06	...	...	1.14	1.14	1.13	1.13	...	...	...	...	...
30 to 30.9	1.25	1.25	1.20	1.20	1.22	1.22	...	...	1.20	1.10	1.10	...	...	1.18	1.18	1.16	1.16	...	...	...	...	...
31 to 31.9	1.30	1.30	...	...	1.28	1.28	...	...	1.25	1.14	1.14	...	...	1.23	1.23	...	...	...	...	...	...	...
32 to 32.9	1.35	1.35	...	...	1.34	1.34	...	...	1.30	1.18	1.18	...	...	1.28	1.28	...	...	...	...	...	...	...
33 to 32.9	1.41	1.41	...	...	1.40	1.40	...	...	1.35	1.22	1.22	...	...	...	1.34	...	...	...	...	...	...	...
34 to 34.9	1.47	1.47	...	...	1.46	1.46	...	...	1.40	1.26	1.26	...	...	...	1.40	...	...	...	...	...	...	1.16
35 to 35.9	1.53	1.53	...	...	...	...	...	...	1.45	1.30	1.30	...	...	...	1.46	...	...	...	...	...	...	1.22
36 to 36.9	1.59	1.59	...	...	...	...	...	...	1.50	...	...	...	...	...	1.52	...	...	...	...	...	...	1.28
37 to 37.9	1.65	1.65	...	...	...	...	...	...	1.55	...	...	...	...	...	1.58	...	...	...	...	...	...	1.34
38 to 38.9	1.71	1.71	...	...	...	...	...	...	1.60	...	...	...	...	...	1.64	...	...	...	...	...	...	1.40
39 to 39.9	1.77	1.77	...	...	...	...	...	...	1.65	...	...	...	...	...	1.70	...	...	...	...	...	...	1.46
40 to 40.9	1.83	1.83	...	...	...	...	...	...	...	...	...	...	...	...	1.76	...	...	...	...	...	...	1.52
41 to 41.9	1.89	1.89	...	...	...	...	...	...	...	...	...	...	...	...	1.82	...	...	...	...	...	...	1.58
42 to 42.9	1.95	1.95	...	...	...	...	...	...	...	...	...	...	...	...	1.88	...	...	...	...	...	...	1.64

Kern River, Newhall-McKittrick, Mount Poso and Round Mountain 11 to 13.9 gravity 45 cents, 14 gravity and above 50 cents, effective October 2, 1928. On December 1, 1928, the Union Oil Co. posted Midway-Sunset, Elk Hills, Buena Vista, Lost Hills and Coalinga crude as follows: 11 to 13.9 gravity at 45 cents, 14 gravity and above 50 cents.

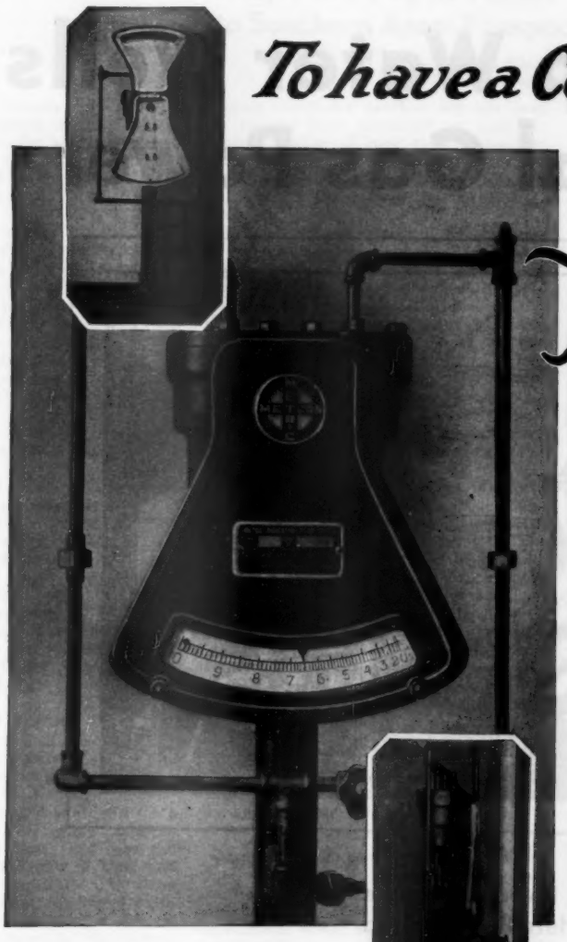
Column 1—Signal Hill, Seal Beach, Huntington Beach and Alamitos Heights crude, 14 to 32.9 gravity, inclusive; Richfield, Olinda-Brea and Fullerton, 14 to 30.9 gravity; Torrance and Inglewood, 14 to 28.9 gravity, Dominguez and Athens-Rosecrans, 24 to 42.9 gravity.

Column 2—Whittier crude, 14 to 22.9 gravity; Coyote Hills, 14 to 30.9 gravity.

Column 6—Oil below 14 gravity posted at 45 cents.

Columns 8 and 10 posted by Union Oil Co. only.

Column 11—Kern River, Newhall and McKittrick, 11 to 19.9 gravity; Midway-Sunset, Buena Vista and Elk Hills, 11 to 33.9 gravity; Lost Hills, 11 to 34.9 gravity; oil below 14 gravity posted at 45 cents.



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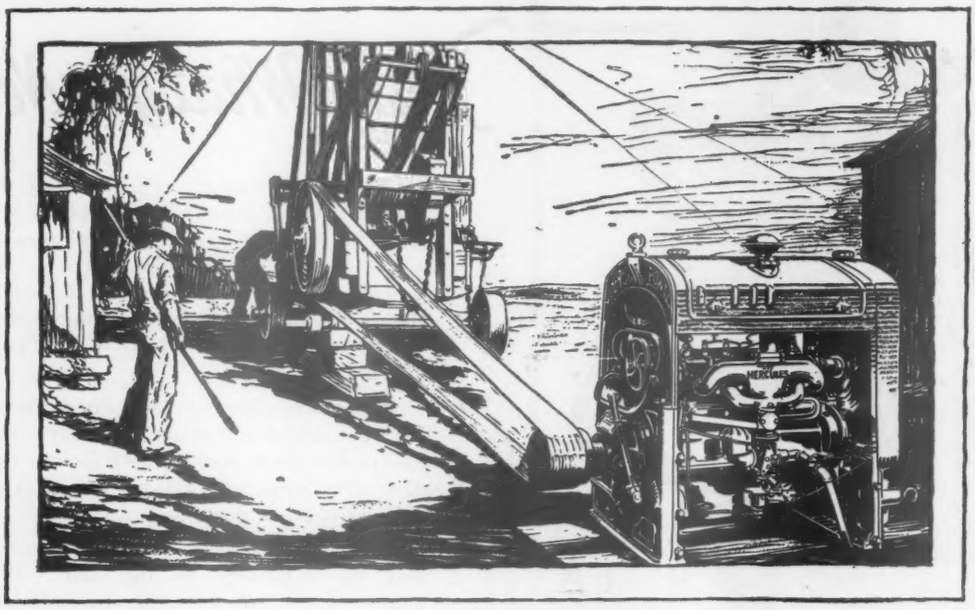

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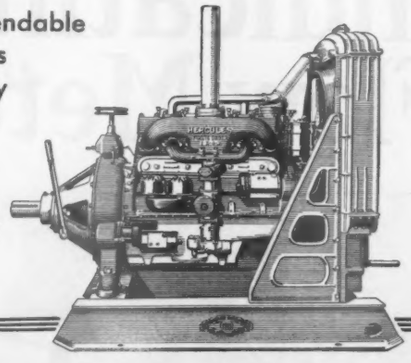

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HERCULES ENGINES

More Production from Canadian Pools

Deep Lime Pay in Turner Valley, Alberta, Extends to Southern Area. Prospects for Good Year in West

By Victor Lauriston
Staff Correspondent, Canadian Fields

The outstanding feature of Alberta, Canada, oil development in the first six months of 1929 was the opening of deep lime production in the south end of the Turner Valley Field by the completion of Home Oil Co.'s No. 1, LSD 10, Section 20-19-2w5.

This test, approximately 5 miles south and east of Royalite Oil Co.'s No. 4 and 9 miles in the same direction from Foothills Oil & Gas Co.'s No. 1, the northernmost deep lime producer in the Turner Valley, not merely extended the proven area of the field so far as the deep lime was concerned, but established a new high record of production for an individual well, with a peak so far recorded of 900 bbls. in a single day. At last reports it was averaging some 200 bbls. better than Royalite's No. 4, which heretofore has held the record.

Since Home Oil Co.'s No. 1 was brought in, the same company's No. 2, LSD 14, also in Section 20, has got the same producing horizon with a crude naphtha recovery of at least 400 bbls. and possibly 600. These are the only deep lime producers yet completed. Within the next two months, five wells should definitely indicate whether, as many operators now believe, the southern end of the Turner Valley is going to be the most important part of the entire field.

Central Section

While the south end of the field has latterly secured the greater part of the new drilling, the central section still has the largest number of deep lime producers. Here it was that Royalite Oil Co.'s No. 4 first proved the crude naphtha horizon in the deep lime, and here the same horizon has been proved time and again, though not as profitably, by more recent deep tests. Royalite's No. 4, with an average of over 500 bbls. a day, is still the largest producer in the central area.

The most important of the recent developments in the central section of the field is, however, McLeod Oil Co.'s No. 4, which, after failing to get a sustained production at the usual depth in the lime, continued drilling till it was over 1,240 feet in the Madison, when it tapped a lower producing horizon. This for some weeks gave a steady production of around 70 bbls. a day which deeper drilling increased to over 100 bbls. This is the geologically deepest test in the entire field, and may be carried still deeper.

Light crude production, except in the Dalhousie sand, does not hold up; and wells of this type when their production declines will usually be deepened to the lime. In some cases crude naphtha producers are later drilled deeper into the lime; and this will be done with a number of wells which, while temporarily taking production, are recognized as still unfinished.

Northern End Proven

The northern end of the field was definitely proved by the completion, last year, of Foothills Oil & Gas Co.'s No. 1. This test got production in the deep lime at the record depth of 5,915 feet, and has since maintained a steady production of around 70 to 75 bbls. a day. Spooner Oils' No. 2 is in the same horizon with a potential recovery of 85 bbls. a day but is being drilled deeper into the lime.

Foothills Prospects

Results secured in the Turner Valley Field, which is a portion of the foothills belt running parallel to and just east of the Rocky Mountains, have encouraged operators to increased activity in testing other sections of the foothills where conditions appear to be similar. So far, this drilling is not sufficiently advanced to furnish conclusive results; but the past six months have witnessed an unprecedented number of new tests located or actually started at various points in the foothills, most of them either a little south or a little north of the Turner Valley.

In two such areas, drilling has definitely entered the deep lime. In the Morley Reserve area, Wabash Oils' No. 1 last year got the lime at the unusually shallow depth of around 1,430 feet. This test is now drilling some 800 feet in the lime, with a small production of wet gas similar to that in the Turner Valley Field. The lime in this area appears decidedly tighter than in the Turner Valley. The Reserve is, however, being thoroughly tested, and may produce more encouraging results elsewhere, or in the Wabash well at greater depths.

The most interesting test in the foothills is undoubtedly Imperial Oil's Highwood No. 1 in the Highwood district not far south of the Turner Valley. This test at last reports was drilling about 50 feet in the lime and should get the producing horizon before the end of July.

In the Pincher Creek area, the Alberta Gas & Fuel Co., a Henry L. Doherty subsidiary, has been carrying on deep drilling operations for a year or more. Results so far have been negative, but core drilling operations are being continued. In the Aldersyde district, which is, strictly speaking, somewhat east of the foothills belt, the Ranchmen's Gas & Oil Co.'s No. 1 has reached the crucial stage, and should give definite results in the near future.

East Central Alberta

Heavy crude has been discovered in small quantities in three distinct areas in the prairie region of Alberta. The most important of these is still the Wainright Field, where establishment of small local refineries specially adapted to handle this crude has encouraged steady production from a few wells and further drilling of new tests. Some new production has been secured in the Wainright Field this spring. Results secured by Wainwell Oils, Ltd., which was organized and financed by Toronto interests, have encouraged capital in eastern Canada to take a more active interest in this area, with the result that numerous new locations were made in the past six months. The field in 1928 had an actual production of 7,585 bbls. per day, and while no official figures for the first six months of 1929 are yet available it is understood this production is being somewhat bettered. The six months have seen completion of Sasko-Wainright Oil & Gas Co.'s No. 1 good for 55 bbls and deepening of Wainwell Oil's No. 1 which is reported making 150 bbls. Two of the older wells have been brought back into production. Unfortunately, the field in its earlier days was not very efficiently handled, and some of the earlier producing wells developed water troubles.

In the Viking gas field, further west, Hudson's Bay-Marland Oil Co. has finished a gasser for Northwestern Utilities, Ltd., good for 8,200,000 feet a day in the Viking sand. Northwestern Utilities, Ltd., is drilling two additional tests for gas.

Ribstone Field

An important development of the past six months was the discovery of heavy crude in the Ribstone-Blackfoot area. Meridian Oil's No. 1 last fall encountered a big gas flow around 1,825 feet. After being shut down for the winter, drilling was resumed, and at 1,833 feet heavy crude was met, a pumping test indicating 120 bbls. a day. This is the first crude oil production on the Ribstone structure, which lies east of the Wainright Field and extends across the Saskatchewan boundary.

Though favorably reported on by Dr. G. S. Hume of the Geological Survey, little actual drilling activity has taken place in this area, following the failure of Imperial Oil's No. 1 Ribstone a couple of years ago. This test got a noncommercial oil show at the Meridian horizon, and nothing in the lime.

The Border Fields

The third field producing heavy crude is near Skiff, in southern Alberta, and not far north of the Montana boundary. It is in the prairie region to which the Wainwright and Ribstone Fields also belong. Opened several years ago by Devenish Petroleums, Ltd., which brought in a well with an estimated production around 360 bbls. a day from the Ellis, its later development has been carried on by Imperial Oil, Ltd. Imperial's Devenish No. 2 was abandoned and Imperial's Devenish No. 3 got a reported production of 30 bbls. a day. As a result, Imperial Oil, Ltd., discontinued operations in this area; but drilling is being continued by a number of independent operators, though only one test is actually under way.

Drilling operations are in progress in various parts of the border area. The most important of recent developments was probably that in the Cypress Hills district, near Medicine Hat, where Eagle Butte Oil Co.'s No. 1 in the concluding days of 1928 struck a big gas flow, estimated 30,000,000 feet a day. This test is going deeper for oil, and a second test will be drilled. Another interesting test is Madison Oil's No. 2 on the Beaver Dome, which already has a considerable gas production. In a number of areas, core drilling has preceded the location of commercial tests.

Hudson's Bay-Marland Tests

Further north, Hudson's Bay-Marland Oil Co. has two tests drilling, one near Champion and the other near Kinnondale. Fuego Oil Co.'s No. 1 in the Acadia Valley, Section 34-25-4w4, is resuming at 2,875. Canadian Western Natural Gas Co. will drill one test for gas in the south end of the Bow Island Field. Still further north, the Globe Drilling Co. is finishing the old Mutual well in Section 14-47-2w4, near Pigeon Lake. Canadian Exploration Co. is planning two wildcat tests, one on the Duvernay structure near Edmonton; and in the Clearwater district Von Weymarn Oils, Ltd., are doing some additional drilling. Ontario Alberta Syndicate will probably finish its test near Suffield. At various points in Alberta are a number of unfinished wildcat tests which have so far shown no signs of resumption.

In the other western provinces there has been relatively little actual drilling. In British Columbia two tests are more or less active in the Sage Creek area, Flathead Valley; and there has been some recrudescence of interests in the oil prospects of that province. Saskatchewan is showing a slight gain in drilling activity, with a couple of tests in the area southwest of Saskatoon, and a third drilling near Simpson. Canadian Western Natural Gas Co. is drilling a test for gas near Hanley. In Manitoba one test is drilling in the Dauphin district, near Ochre River.

Eastern Canada

Operations in Ontario are confined to the gas companies which are drilling to maintain and if possible increase their reserves. Except in the old Tilbury Field, results of such drilling have been largely negative. In the Dawn Field, Lambton County, the Union Natural Gas Co. has this spring finished several dry holes, as well as one dry hole in Dover Township, Kent County. The Ridgetown area in Kent County has been twice tested by the same company without securing any production. The Union Natural Gas Co. has finished one or two small gassers in the Tilbury Field, and the Southern Ontario Gas Co. has got production in two wells, and is planning to drill a series of tests to the Tilbury sand.

The most noteworthy development in Ontario has been the completion of Ajax Oil & Gas Co.'s No. 4 Trenton limestone test in Dover Township, where a shot in the Trenton increased an initial show of 750,000 feet to more than 5,000,000 feet. This location is some distance east of the old Dover Field. It is too early to state with certainty that it has opened a new field in the Trenton; but the Ajax company is continuing development work to gradually test the area still further east.

Production in Canada

Official figures of the Turner Valley production for the six months period ending June 30, 1929, show a marked increase over the same period in 1928. Where the 1928 production totaled 228,526 bbls. in the six months, the 1929 production reached 386,227 bbls., an increase of 157,701 bbls. This increase has been steady and continuous from month to month; and despite the seasonal hot weather decline in production of individual wells, including Royalite's No. 4, June established a new monthly record with a yield of 92,122 bbls.

Of the June production, 33,832 bbls., or more than one-third, came from Home Oil Co.'s No. 1 and 2 wells in the south end of the field.

Detailed comparative figures for the first six months in 1928 and 1929 are as follows:

Month	Production 1929	Production 1928
January	38,504	33,336
February	41,439	32,542
March	56,701	37,899
April	69,207	34,774
May	88,302	43,476
June	92,123	46,599

For the Wainwright Field, production for the first six months of 1928 totaled 4,692 bbls. Official figures for the same period in 1929 are not yet available, but unofficial estimates, which may be considerably exceeded, place the production around 10,000 bbls. This would give a total crude naphtha and light and heavy crude oil production for the province of 396,227 bbls.

Figures for the various Canadian fields for the six-months periods of 1929 and 1928 may be summarized as follows:

Field	Production 1929 (bbls.)	Production 1928 (bbls.)
Turner Valley	386,277	228,526
Wainwright	*10,000	4,692
Ontario	*60,000	65,427
New Brunswick	*3,600	3,582
Totals	459,877	302,227

*Estimated.

The outlook for the coming six months points to a still further increase in the Turner Valley production. A production of 1,000,000 bbls. from this one field is not impossible for the year 1929, and may even be exceeded. For the Wainright Field an increased production is practically certain; since these tests now drilling should be completed by the end of the present summer. Further east, the Ribstone Field has one producing well which has just been placed on the pump and should contribute to the totals for the second half of 1929. What the Skiff Field in southern Alberta will add to the year's production is uncertain; it did not appear in the official figures for 1928, though some crude was shipped. At present the two wells capable of production are shut in.

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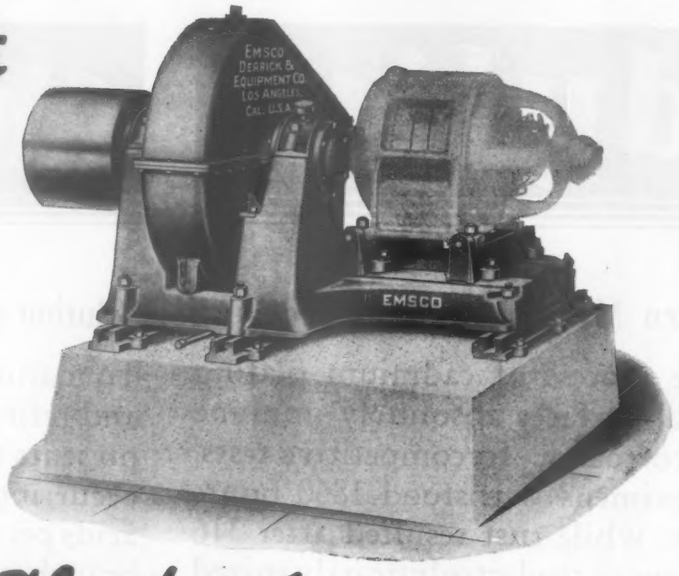

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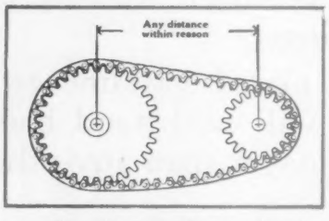

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Silent chain was selected for this purpose to insure a positive drive, and obtain the highest efficiency possible, which from actual test has proven to be in excess of 98%. This efficiency is sustained throughout the entire life of the drive.

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EMSCO STEEL EQUIPPED WELLS ARE SAFE

Eight New Gulf Coast Dome Fields

First Half of the Year Resulted in Important Developments in South Texas and South Louisiana. Much Wildcatting

By Neil Williams
Staff Correspondent, Gulf Coast Fields

Operations on the Gulf Coast the first six months of the year did much to uncover new sources of potential production both in the opening of entirely new fields and in the development of new sand areas around a number of the older domes. A generally more active program was carried out in drilling up the newer fields and in expansion of wildcatting with the result that production increased from approximately 138,000 bbls. daily at the opening of the year to around 165,000 bbls. or greater than at any time since February of 1927.

A review of the six months shows the discovery with commercial wells of eight entirely new fields on domes or dome prospects on which no previous commercial oil had been found. Of these new fields, six are producing oil and two, so far, only gas. On two additional wildcat prospects short-lived wells were completed or showings were of such importance as foretell the existence of fields. At none of these fields, except Old Hackberry and Lost Lake, had any drilling been done before this year.

These new fields, in addition to Old Hackberry and Lost Lake, include Port Neches, Hankamer, Black Bayou, Dog Lake Bayou, Lake Pelto and Bay St. Elaine. Old Hackberry, being the only one of these not controlled, has been the only one to be developed to sizable proportions, but the hurried development of its 3,000-foot sand on the south side of the dome was followed by an equally rapid decline both in drilling and production until now this field is entirely out of the picture.

Old Hackberry Dome

Old Hackberry Dome, one of the oldest on the Gulf Coast, has been drilled on and around at intervals for over a quarter century, but it was not until the first of this year that the first commercial production was found, this being on the south side. Most of the previous drilling had been on the north, northwest and east. The acreage on the south being cut up into small tracts necessitated considerable offsetting with the result that one of the most active drilling plays witnessed on the Gulf Coast in several years marked the development of that field which soon reached its peak and fell. In the meantime, Rycade Oil Corp. and Humble Oil & Refining Co. completed a small wildcat pumper on the west side of the dome but at present this is the only producer, and now only two tests are drilling anywhere at Old Hackberry.

Port Neches Discovery

Early in May The Texas Company opened a field in the marshes of southwestern Orange County, Texas, a few miles northeast of Port Neches. The first test drilled there came in flowing at the rate of 1,900 bbls. daily of 21.4 gravity pipe line oil from sand at a total depth of 3,162 feet. This wildcat, which was considered one of the most important finds in many months, flowed steadily for nearly a week and then started showing water but is making better than 500 bbls. net oil daily. Although The Texas Company holds the close-in acreage to the well, other favorable tracts are held by Gulf Production Co., Shell Petroleum Corp., and lately the Marland Oil Co. has bought acreage around where the dome is supposed to be.

Black Bayou Dome

Almost coincident with the discovery at Port Neches, Shell Petroleum Corp. opened its Black Bayou Dome in Cameron Parish, Louisiana, about 25 miles east of The Texas Company's wildcat, with two wells, one a deep flank sand test and the other a shallow cap-rock pumper. The former flowed at the rate of 60 bbls. of fluid, 75 per cent b.s. and water, hourly from sand at 4,727 feet. Eleven tests, all to the cap rock at less than 1,000 feet except the one deep sand producer, have been drilled at Black Bayou, three of which have been producers, in the cap-rock production, and the one flank well.

Hankamer, another of the Gulf Coast's so-called new "domes," was opened a month later by Gulf Production Co.'s No. 1 Boyt in the Amos Allen Survey in the extreme southern part of Liberty County, Texas, just over the Chambers County line. The discovery well, the second test drilled, flowed 45 bbls. of pipe line oil the first hour from a sand at 2,593-57 feet. After the first day, production dropped rapidly and water showed up in considerable quantity and at present the well is shut in.

Lost Lake Dome Looks Good

The Lost Lake discovery in northern Chambers County, 10 miles west of Gulf Production Co.'s Hankamer wildcat, was one of the earlier events of the year. Although the first production, opened early in March, was gas, oil showings found in the discovery well and in other tests caused operators to look with as much favor, if not more, on this area than on any other new-found prospect in the Gulf Coast. The discovery well, Pure Oil Co.'s No. 1 Mayes, blew in gauging better than 40,000,000 feet of gas daily from sand at a total depth of 2,701 feet. Pure Oil Co., which holds all acreage at this dome, has drilled six tests there and is drilling two more.

The Dog Lake Bayou, Bay St. Elaine and Lake Pelto discoveries, all in the extreme southern part of Terrebonne

GULF COAST—TEXAS

Daily Average and Monthly Production First Six Months of 1929

	January (bbls.)	February (bbls.)	March (bbls.)	April (bbls.)	May (bbls.)	June (bbls.)	Total 6 mos. (bbls.)
ALLEN DOME:							
Daily average	8	7	24	8	9	9	
Month	252	202	748	239	272	268	1,982
BARBERS HILL:							
Daily average	2,191	5,839	7,461	9,887	7,692	8,659	
Month	67,920	163,495	231,292	296,597	238,463	259,762	1,257,519
BATSON:							
Daily average	1,321	1,344	1,434	1,488	1,417	1,429	
Month	40,961	37,620	44,447	44,634	43,921	42,863	254,446
BIG CREEK:							
Daily average	3,913	4,233	4,087	2,885	2,311	3,608	
Month	121,317	118,514	126,691	86,547	71,642	108,239	632,950
BLUE RIDGE:							
Daily average	4,666	4,374	3,838	3,957	3,785	4,272	
Month	144,633	122,487	118,994	118,714	117,331	128,186	750,345
BRENHAM:							
Daily average	150	150	150	150	217	220	
Month	4,650	4,200	4,650	4,500	6,715	6,615	31,330
BOLING:							
Daily average	2,358	1,972	2,039	1,948	1,792	1,610	
Month	73,110	55,203	63,224	58,439	55,551	48,292	353,819
CLAY CREEK:							
Daily average	.....	906	3,508	3,644	2,979	2,688	
Month	.....	25,389	108,756	109,324	92,351	80,657	416,468
DAMON MOUND:							
Daily average	650	650	650	664	675	631	
Month	20,150	18,200	20,150	19,910	20,925	18,918	118,253
D'WALT:							
Daily average	6,811	7,551	9,334	11,548	11,630	11,765	
Month	211,153	211,431	289,343	346,454	360,541	352,942	1,771,864
FANNETTE:							
Daily average	491	390	760	683	488	309	
Month	15,230	24,933	23,546	20,475	15,141	9,280	108,605
GAY HILL:							
Daily average	232	.....	.....	.....	.....	.....	
Month	7,200	.....	.....	.....	.....	.....	7,200
GOOSE CREEK:							
Daily average	6,530	6,697	6,588	6,488	6,031	5,811	
Month	202,444	187,504	204,232	194,637	186,973	174,319	1,150,109
HIGH ISLAND:							
Daily average	1,086	1,403	1,497	1,506	1,441	1,207	
Month	33,681	39,294	46,409	45,020	44,681	36,198	245,283
HULL:							
Daily average	9,985	10,176	10,273	9,670	8,905	9,122	
Month	309,527	284,920	318,465	290,106	276,067	273,669	1,752,754
HUMBLE:							
Daily average	5,287	4,841	4,911	7,106	7,802	5,623	
Month	163,901	135,548	152,227	213,192	241,866	168,694	1,075,428
JASPER:							
Daily average	16	10	16	25	22	17	
Month	506	280	498	740	670	525	3,219
MARKHAM:							
Daily average	383	419	378	1,152	428	372	
Month	11,858	11,732	11,733	34,574	13,275	11,165	94,337
NASH:							
Daily average	847	711	600	628	505	467	
Month	26,260	19,910	18,600	18,830	15,650	13,999	113,249
NORTH DAYTON:							
Daily average	585	491	473	448	429	404	
Month	18,130	13,740	14,665	13,430	13,305	12,110	85,380
ORANGE:							
Daily average	3,221	2,967	3,007	2,888	3,004	2,983	
Month	99,853	83,090	93,232	86,634	93,119	89,486	545,414
ORCHARD:							
Daily average	61	68	70	390	183	153	
Month	1,886	1,914	2,160	11,718	5,672	4,584	27,934
PIERCE JUNCTION:							
Daily average	11,260	11,752	12,355	17,635	18,865	17,772	
Month	349,065	329,059	383,009	529,063	584,802	533,174	2,708,172
PORT NECHES:							
Daily average	.....	.....	.....	.....	607	325	
Month	.....	.....	.....	.....	18,830	9,744	28,574
HANKAMER:							
Daily average	.....	.....	.....	.....	.....	65	
Month	.....	.....	.....	.....	.....	1,939	1,939
RACCOON BEND:							
Daily average	1,747	1,952	2,248	2,480	4,180	5,926	
Month	54,145	54,651	69,680	74,409	129,574	178,097	560,556
SARATOGA:							
Daily average	963	964	944	937	912	928	
Month	29,998	26,989	29,269	28,109	28,284	27,842	170,491
SOUR LAKE:							
Daily average	2,921	2,933	2,772	2,712	2,725	2,726	
Month	90,539	82,135	85,931	81,360	84,469	81,787	506,221
SOUTH LIBERTY-SOUTH DAYTON:							
Daily average	8,325	6,394	6,156	5,569	6,399	5,604	
Month	258,059	179,027	190,845	167,076	198,355	168,121	1,161,483
SPINDLETOP:							
Daily average	34,521	33,809	33,801	32,599	28,872	27,647	
Month	1,070,141	946,641	1,047,817	977,957	895,018	829,426	5,767,000
WEST COLUMBIA:							
Daily average	7,256	7,200	7,733	6,664	6,519	6,097	
Month	224,948	201,607	239,727	199,919	204,330	182,912	1,253,443
Daily average	117,790	120,703	127,107	135,753	130,824	128,460	126,827
Total Texas Gulf Coast	3,651,517	3,379,707	3,940,340	4,072,607	4,057,783	3,853,813	22,955,767

Parish, Louisiana, on the Gulf of Mexico, are a part of the development program being carried on there by The Texas Company on geophysical domes taken over from the Louisiana Land & Exploration Co. the latter part of 1928.

Operations so far on these domes in Terrebonne Parish have been very promising, with the first test on each so far proving the dome or finding production. The first test at Bay St. Elaine Dome, No. 1-B Bay Coon Road, made one of the biggest gas wells ever brought in on the Gulf Coast, and from a shallow sand at 653 feet. This well gauged 93,000,000 feet of gas daily. At Dog Lake Bayou Dome, the company's No. 1-A was completed flowing from 10 to 15 bbls. an hour on air, although it did not hold up to this figure. Early in July No. 1 Lake Pelto, on the dome bearing that name, was bailed in estimated as good for 100 bbls. daily at 1,288 feet, but as this is written tubing is being run.

The Texas Company Very Active

The Texas Company took over seven geophysical domes in Terrebonne Parish never before drilled upon, two other domes, Vermillion Bay in Iberia Parish and Calcasieu Lake in Cameron Parish, and the holdings of the Louisiana Land & Exploration Co. at East Hackberry, Cameron Parish, and agreed to drill a minimum of four tests on each except East Hackberry. Vermillion Bay and Calcasieu Lake and East Hackberry already had been proved as domes, but the Terrebonne Parish prospects, all geophysical finds of late 1928, never had been drilled upon. In this connection very little drilling had been done, nor geophysical exploration made, in Terrebonne Parish previous to this time except at Houma, where gas was found.

In the first of the seven Terrebonne Parish domes drilled, this being Lake Barre, salt was hit and the first test abandoned. The first test on Four Isle Bayou Dome also has drilled into cap rock proving that dome. On the two other domes, Caillou Island and East Bay Junope, first tests are drilling but have not been completed.

7,400-Foot Producer

One of the most important developments was the completion of Yount Lee Oil Co.'s No. 6 Housierre-Latrielle, three-quarters of a mile southeast of the old Jennings Field, Louisiana, in a sand at 7,400 feet, the deepest any well has been completed on the Gulf Coast. This well has been estimated conservatively as good for 5,000 bbls. of pipe line oil daily, although the initial day's flow was choked in to 2,500 bbls. Still making pipe line oil, the well continues to flow better than 1,900 bbls. daily on chokes.

The discovery of this deep sand was in line with the general trend toward deeper drilling which featured Gulf Coast operations the first six months and which resulted in the development of two important deep sand fields at Humble and at Barbers Hill. Since the completion of the Coast's deepest producer at 7,400 feet, the same company, also at Jennings, again has broken the deep drilling records of the Coast and has gone to below 7,600 feet in its No. 4 Crowley on the north side of the dome.

Humble's Revival

The deep sand opened on the south side of Humble early in the year by South Texas Petroleum Co.'s (Cullen & West) No. 1 Morris at 5,347 feet has added eight producers up to July 1, one of which extended the field approximately 2,000 feet to the southwest around the dome. Some of the Coast's biggest producers of recent years have been completed in this sand, which promises continued development.

Barbers Hill Becomes Prominent

Two deep sand pools at Barbers Hill, one on the east side and one on the south, both opened late in 1928, have been drilled actively since, and the successful completion of the majority of the tests as producers has lifted Barbers Hill to one of the leading producing fields of the Coast. An attempt to find a deep sand on the north side of the dome failed in a 6,300-foot wildcat but showing found in this test indicated that a test a little closer in might make a good well.

One of the outstanding deep wildcats drilled was Gulf Production Co.'s No. 2 Burrell at Fannette which blew in early in January estimated at 3,000 bbls. of pipe line oil daily from sand at 5,607-17 feet. This well caught fire and burned out of control over a week making one of the Coast's most spectacular fires. The well finally was completed successfully, flowing choked in about 1,500 bbls. daily.

Although this was not the first production at Fannette it might be considered as the discovery well as the first, No. 6-A Bordages, pumped only a small amount of oil for less than three weeks and was abandoned. No. 2 Burrell also has quit and has been abandoned temporarily but it lasted about six months, long enough to prove the commercial possibilities of the field. The wells are approximately 600 feet apart.

During June, Gulf Production Co. completed two more 1,000-bbl. wells at Fannette in the deep sand but neither flowed longer than two weeks and now are being worked over. Fannette, in Jefferson County, is a geophysical dome discovered in 1925 by the Gulf Production Co., which company controls it and has carried on a steady drilling program.

Botney Bay Tests Short Lived

So far efforts to complete a commercial well at Point Barre, St. Landry Parish, where drilling was started on another new salt dome this year, have failed. The Texas Company's two tests drilled, Nos. 1 and 2 Botney Bay, each flowed for a short time, indicating the existence of another salt dome field in southern Louisiana but the flow in each was of such short duration that this dome cannot as yet be classed among the new fields. The No. 1 blew in making an estimated 500 bbls. from sand 3,729-49 feet. The well was shut in for storage but when reopened failed to flow despite reworking and then was deepened to the salt and abandoned. No. 2 Botney Bay flowed 100 bbls. an hour for 30 minutes at 3,618 feet but sanded. It later started flowing again at the rate of about 400 bbls daily but again quit and is now being deepened. Gulf Production Co.'s No. 1 Gaudet, the only other test to be drilled on this dome has just drilled into salt and been abandoned.

Vacuum Oil Co. had a similar experience at its Roanoke prospect in Jefferson Davis Parish, where its first test, No. 1 DeVilbiss, found an oil sand at 4,176 feet and swabbed some oil but was deepened to 5,685 feet and abandoned.

Important Extensions

This year also has been marked by important extensions of production at Pierce Junction, DeWalt, Raccoon Bend, Refugio, Clay Creek and Orchard, by the opening of several additional producing areas and sands at Liberty, and by the bringing in of a number of good wells to the north of Big Creek.

At Pierce Junction, extensions and development of production did much toward completing the circle of production around the dome, a distinction which now is held only by Hull. Production on the north and on the east of Pierce Junction was linked by development of production on the northeast making a continuous line of production there. A new pool also was brought in on the southwest side, which with continued completions and further drilling to the north, looks as though it will join with Rio Bravo Oil Co.'s field on the west, which gradually is moving southward.

Unusual Record

DeWalt, Fort Bend County, which is operated exclusively by the Humble Oil & Refining Co., has had a most unusual record for a Coastal field. Twenty-seven tests have been drilled, not including those now drilling of which every one except one has been a producer. That one swabbed a little oil but never has been officially completed either as a producer or an abandonment. Gradual extensions at DeWalt this year have spread the field out over a distance of approximately 8,000 feet from north to south, which makes it possibly the largest unbroken field on the Coast.

Raccoon Bend Most Active

Raccoon Bend, operated jointly by the Humble Oil & Refining Co. and the Valley Oil Corp., has been the most actively developed field on the Gulf this year. Numerous land ownerships have necessitated rapid drilling of this area which has been marked by frequent extensions both in the 1,100-foot gas sand and in the 3,200-foot oil sand. A new sand

(Continued on Page 182)

GULF COAST—LOUISIANA

ANSE LA BUTTE:							
Daily average	45	42	45	46	49	50	
Month	1,392	1,202	1,400	1,370	1,535	1,500	8,399
BAYOU BOUILLON:							
Daily average	530	418	270	263	213	271	
Month	16,133	11,711	8,353	7,893	6,605	8,119	58,814
BLACK BAYOU:							
Daily average	.....	.....	.....	.....	139	178	
Month	.....	.....	.....	.....	4,298	5,348	9,646
EDGERLY:							
Daily average	870	789	856	825	881	727	
Month	26,956	22,090	26,527	24,742	27,315	21,779	149,409
JENNINGS:							
Daily average	817	786	823	872	938	3,371	
Month	25,311	22,020	25,503	26,170	29,071	101,129	229,204
HACKBERRY:							
Daily average	6,220	5,839	6,694	7,026	5,834	4,755	
Month	192,830	163,484	207,516	210,786	180,866	142,648	1,098,130
LOCKPORT:							
Daily average	4,179	4,463	4,164	3,655	3,891	3,862	
Month	129,550	124,965	129,097	109,639	120,611	115,855	729,717
SORRENTO:							
Daily average	1,049	631	509	412	300	331	
Month	32,525	17,658	15,779	12,360	9,286	9,929	97,537
STARKS:							
Daily average	770	697	518	504	459	422	
Month	23,880	19,530	16,060	15,124	14,232	12,676	101,502
SULPHUR:							
Daily average	2,916	2,170	2,020	2,880	2,673	2,221	
Month	90,400	60,750	62,625	86,420	82,850	66,645	449,690
SWEET LAKE:							
Daily average	858	595	394	367	462	434	
Month	26,605	16,660	12,215	11,001	14,316	13,025	93,822
VINTON:							
Daily average	4,103	4,250	4,520	4,225	4,002	4,366	
Month	127,204	118,996	140,117	126,742	124,070	130,984	768,113
WELSH:							
Daily average	30	30	31	35	35	33	
Month	930	840	975	1,050	1,085	984	5,864
Daily average	22,377	20,710	20,844	21,110	19,876	21,021	
Total Louisiana Gulf Coast	693,716	579,906	646,167	633,297	616,140	630,621	3,799,847
TOTAL ALL GULF COAST:							
Daily average	140,167	141,413	147,950	156,863	150,722	149,481	147,815
Month	4,344,233	3,959,613	4,586,507	4,705,904	4,673,923	4,484,434	26,754,614
First 6 months 1928	3,796,856	3,652,390	3,796,816	3,760,253	4,155,544	4,114,796	23,276,495
First 6 months 1927	5,232,366	4,409,580	4,837,581	4,420,560	4,762,127	4,612,620	28,274,834
First 6 months 1926	3,023,877	2,820,608	3,034,683	2,842,050	3,208,721	2,849,970	17,779,409

KENTUCKY VERY ACTIVE BUT WORK IN TENNESSEE FALLS OFF GREATLY

By George R. Whitney

The outstanding feature of the Tri-County Field in western Kentucky during the first half of 1929, was the opening of the Bartlett Pool southwest of Taffy, and southwest of the one-time great Ambrose Pool, when Engle, Berg and others drilled in a wildcat on the Ellis Bartlett 54 acres, adding a vast amount of territory to the northern Ohio County area. This well was credited with 80 bbls. initial and was sold in part to Hupp, Duff and others of Lexington. Since then some very large oil producers have been found in the pool, where at least a mile or more square of territory is gilt-edged shallow drilling. This pool is almost as prolific as the Ambrose Pool, although the drilling in of wells was not as rapid as in the Ambrose Pool. Weather conditions were bad up to the latter part of April, owing to the heavy rains and bad condition of the roads for moving materials, hence, not as much work was accomplished as would have been had conditions been better. The Friendship Church area in Ohio County is very promising territory and a large amount of work has been done there as well as in other parts of the county. It took years to get this development started as the early wells were small. Daviess County is getting its share of the development work but not so much so as Ohio County. The western part of Daviess County is making a good showing as far as the drill has gone. Two wells have been completed near St. Joseph, in almost the extreme western part of the county, both reported from 70 to 75 bbls., and the idea of those that have looked the territory over very carefully is that the western end will probably be the best producing part of the county. There are chances of finding a still deeper pay than in the two wells already found near St. Joseph, as it is the supposition that a formation known as the McCloskey sand will be found there. This sand has been a remarkable producer of oil for many years in Lawrence County, Illinois, and has been found in one well that was drilled in Union County, Kentucky. The sand usually is not many feet in thickness, but when it has oil, it yields heavy and long-lived production.

Another interesting spot in western Kentucky, that is in for much drilling is Muhlenburg County, where the Ohio Oil Co. brought in a 200-bbl. producer on the Kennedy lease a mile or so south of Greenville. The recent finding of oil in Christian County in the southern end of the western part of the State, may

(Continued on Page 182)

They "Fetch It" for Ed

Regular fellows — Ed King, Driller, and E. G. Warren, Tooldresser — here appearing on a Gypsy well on the Leclair lease upholding a set of Spang Weldless Jars. And they can say a lot in a few words: "Spang Jars fetch it". This is the broad basis for a universal prestige and preference. Spang is recognized thruout the drilling world as *"The Higher Standard"* Jars.

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14X7¼X14 Duplex Slush Pump	No. 13U
5X10 Duplex Power Pump	No. 55
7¼X14 Duplex Power Slush Pump Type "B"	No. 56
14X7¼X14 Duplex Slush Pump Type "B"	No. 65

THE
NATIONAL SUPPLY
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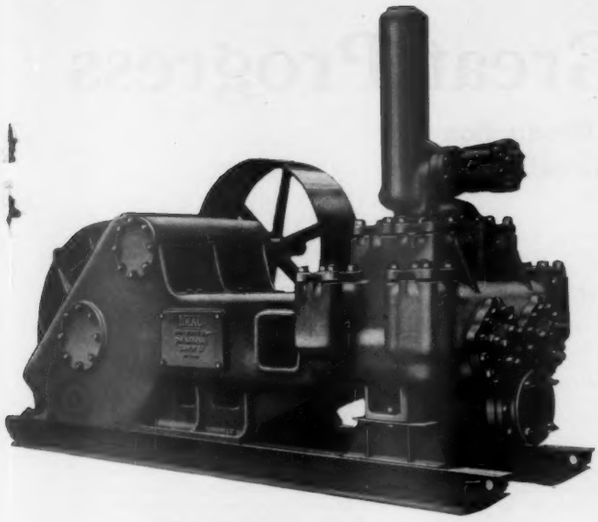

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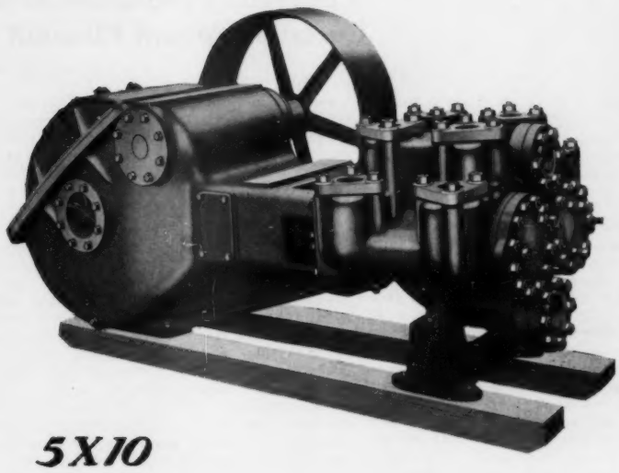

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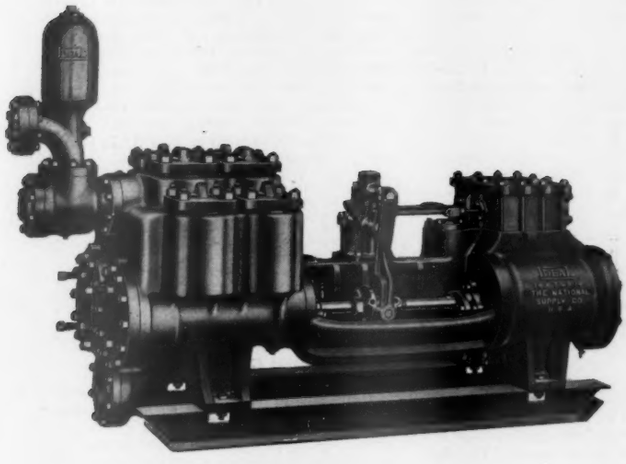

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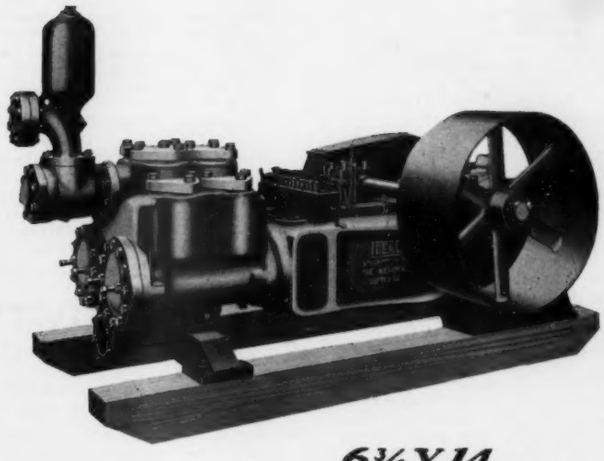

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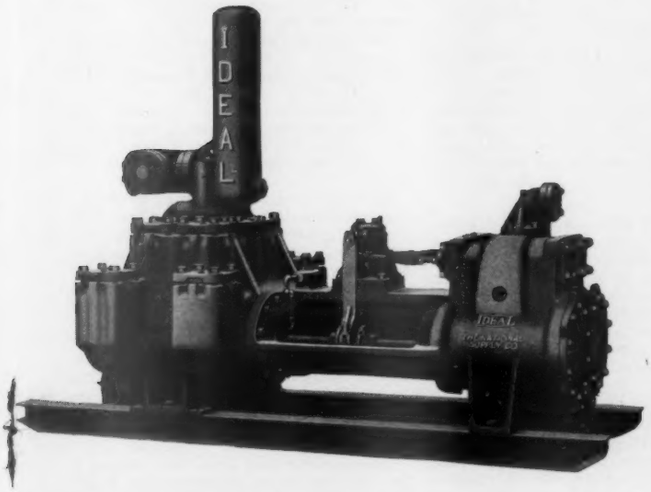

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Michigan Fields Made Great Progress

Muskegon Productive Area Defined but Production Is Curtailed. Mount Pleasant Field One of Great Promise

By Special Correspondent

From an area of exploration and comparatively new development Michigan, during the period of January 1 to July 1, 1929, advanced into the rank of states to be considered by operators both large and small in the future of the oil industry.

For while the Saginaw Field on the eastern side of the lower peninsula was opened in 1925, the Muskegon Field discovered in December of 1927 and the Mount Pleasant Field started in the spring of 1928, it was not until the early part of January, 1929, that daily production in any of these areas had exceeded 2,000 bbls.

Development of the Dundee pay sands both in the Muskegon and Mount Pleasant Fields started production on a rapid rise in the western Michigan Field in January until by the first week in February enough production had been discovered to make possible the shipment of 8,000 bbls. a day from Muskegon with indications that the field would soon have a potential production of 35,000 to 40,000 bbls. a day.

Production then began to tax the capacity of the Dixie Pipe Line Co., operating subsidiary of the Standard Oil Co. of Indiana in the Muskegon Field. This situation combined with the fact that the Standard of Indiana research laboratories had discovered a peculiar problem in refining the Dundee crude from Muskegon resulted in a price cut from the Mid-Continent gravity scale of $1.26 prevailing on February 7 to 50 cents per barrel without regard for gravity.

While development was retarded considerably by the drastic price cut announced effective immediately, it proved the making of the oil industry in Muskegon and the eventual construction of four new competing oil gathering line systems, one of which was for the Shell Petroleum Corp., the starting of three independent refineries now under construction and the inauguration of crude oil shipments by boat to the Chicago area.

At the same time independent operators entered the area near the three Dundee sand wells with which the Pure Oil Co. had opened the Mount Pleasant Field in central Michigan and shifted the center of drilling activities from Greendale Township on the west edge of Midland County to Chippewa Township just over the county line on the east side of Isabella County. The new wells proved to be greater producers than those first drilled by the Pure Oil Co. until today it is predicted that the Mount Pleasant Field of central Michigan will some day have as great a potential production as Muskegon Field at the present time. Prospects at Mount Pleasant are considered better for longer lived wells because of the greater thickness of pay sands and the greater depth at which they have been encountered in the same Dundee formation. Quality and gravity of the Dundee crude at Mount Pleasant also is higher than at Muskegon.

During the fall and winter months including the early part of 1929, wildcat development gradually increased throughout the State until today there are more wildcat wells drilling than ever before in the history of Michigan.

Oil and Gas in Logan County

Two small gas wells brought in last fall in Logan Township, Mason County, about 50 miles north of the Muskegon Field, were followed by the completion of two small oil wells in the upper Traverse pay sands indicating the possibility of the development of a new western Michigan pool there. Further development has been very slow, however, with few operators drilling in the vicinity of the completed wells.

One wildcat well in Newaygo County located about 25 miles northeast of the Muskegon Field has developed commercial production in the upper Traverse pay sands leading operators to believe it is near another pool on a line between the Muskegon and Mount Pleasant producing areas.

The Saginaw Field

The Saginaw Field which was developed between 1925 and 1927 with production in the Berea and Saginaw, or Traverse sands is defined and settled as of July 1, 1929. More than 300 wells with an initial production of from 10 to 200 bbls. a day were drilled in the field and indications were that the field was to be an important one.

The Standard Oil Co. of Indiana put enough faith in the field to erect a 1,500-bbl. skimming plant at Zilwaukee, Mich., near Saginaw, which for some time has been dependent upon the Traverse production of the Muskegon Field to keep it in operation.

Daily production of the Saginaw wells has dwindled to a few barrels per well for a total of not more than 300 bbls. a day. Many wells have been plugged during the first six months of the present year and the one deep test well that was being drilled by the Saginaw Prospecting Co. has been abandoned at a depth of less than 4,000 feet.

The Muskegon Field opened by the Muskegon Oil Corp. on December 15, 1927, when the No. 1 Charles Reeths discovery well came in, had a maximum production of about 2,000 bbls. in the upper Traverse pay sands in the fall of 1928. By January 1, 1929, it was making only 1,000 bbls. a day in the Traverse from more than 50 producing wells and on July 1 there is no more than 800 bbls. of Traverse production daily.

Development of Muskegon

The discovery well of the Muskegon Field was located in the NE NE, Section 9-10-16, Muskegon Township, on the Muskegon River bank, about 3 miles north of the city. It came in with 340 bbls. initial flow and about 500,000 feet of gas a day. The Traverse formation was topped at 1,640 feet and the well came in at 1,658 feet. It later was drilled to 1,674 feet and is now pumping less than 5 bbls. a day after having produced more than 17,500 bbls. of crude oil in its lifetime.

Gravity of the upper as well as the lower Traverse crude oil struck in a few stray wells at 1,900-25 feet depending upon the surface elevation and the rise or fall in the formations, has varied from 36 to 40 degrees A.P.I. specifications. The Dixie Pipe Line Co. has maintained a separate gathering line system for the Traverse crude throughout the entire field from the time the discovery well was brought in to the present and has paid the prevailing Mid-Continent gravity scale of prices for the oil which is sweet in quality.

About a year ago, in July, 1928, the Dixie Oil Co. carried its No. 1 Albert Becker well, SE SW, Section 4-10-16, Muskegon Township, just a short distance north of the discovery well, to the Dundee formation striking a flow of 2,500,000 feet a day of gas and about 50 bbls. a day of oil. Difficulties with cementing casing made it impossible ever to complete the well as a producer but it opened the new horizon which today has an estimated potential production of 75,000 bbls.

The first commercial well completed in the Dundee formation was the Wa-Je-Sel Oil Co.'s No. 1 Reeths well, SW SW, Section 4-10-16, about a quarter of a mile west of the Dixie-Becker well. It had an initial flow of 500 bbls. of oil and 5,000,000 feet of gas daily at a depth of 2,055 feet. It came in August 8, 1928, and is still flowing about 500,000 feet of gas and 10 bbls. of oil a day.

Developments were rapid and several wildcats were started in either direction east and west of these two Dundee wells. One of them came in as a large producer of oil and gas more than 2 miles west of the limits of the field at that time. This well was Carl Prather's No. 1 John Thompson, SW NW, Section 12-10-17, which opened the Laketon Township area of the field with a flow of 5,000,000 feet a day of gas and 50 bbls. of oil. Most of the gas flow has since disappeared and the well is now good for about 600 bbls. of oil a day natural.

There are now more than 150 Dundee oil wells in the field and about 75 Traverse oil wells. Daily runs of Dundee crude oil by four completed gathering line systems in the field are estimated from 15,000 to 20,000 bbls. with a potential estimated by Dixie Oil Co. officials at 75,000 bbls. a day. The Traverse wells are making about 10 bbls. average per well.

A survey of the field as of July 1, 1929, was as follows:

Nature—	Muskegon Twp.	Laketon Twp.	Total
Oil wells	144	91	235
Gas wells	37	0	37
Dry holes	31	10	41
Uncompleted (abd.)	9	0	9
Drilling	23	15	37
Spudding	2	2	4
Rigging, moving in	5	8	13
Locations	41	32	73
Shut down	6	3	9
Total	298	161	458

Natural Gas Developments

Muskegon industries, commercial establishments and homes have been using natural gas from the dry gassers and some of the casinghead gas from producing oil wells since September 4, 1928. Four gas pipe lines were laid to serve varied interests throughout Greater Muskegon including the two cities of Muskegon and Muskegon Heights.

The Muskegon Traction & Lighting Co. laid a line to serve domestic consumers of Muskegon at a cost of about $40,000 and made the complete changeover to natural gas on Labor Day, 1928.

The Continental Motors Corp. first invested about $25,000 in a line to serve themselves and the Lakey Foundry & Machine Co. with natural gas for various industrial purposes. It was later extended at an additional cost of about $25,000 to serve the Brunswick-Balke Collender Co., Muskegon's second largest industry.

In the meantime a group of industries organized the West Michigan Consumers Co. and invested about $250,000 in lines and a compressor station with a capacity of between 2,000,000 and 3,000,000 feet a day of gas in the Muskegon Township area of the field where all of the dry gassers are located.

The Muskegon Pipe Line Co. was organized by Chatham, Ontario, Canada, interests primarily to serve the Central Paper Co. with boiler gas. Other industries were added later to the line which represents an investment of more than $100,000.

Together the four lines were pulling a maximum of about 18,000,000 feet a day of natural gas from the field during the winter months and today they are using

(Continued on Page 256)

AMAZING ACTIVITY IN AMERICA'S OLDEST OIL PRODUCING FIELDS

By D. S. Wakenight
Staff Correspondent, Eastern Fields

Interest in the oil fields of northwestern Pennsylvania and southwestern New York States, the oldest in the world and the cradle of the industry, centered during the first half of the year around the Bradford and Allegany Fields, where a revival of drilling and activity is under way. This activity is at a rate which was not dreamed possible a few years ago, and is even amazing the most optimistic of operators in the section. It has resulted in such great production as to cause a reduction in the posted price for the Bradford Field, which has now been put on the same basis as the Middle and Venango-Clarion areas. However, Bradford crude draws a premium of 25 cents a barrel above the posted price.

Five spotting is the method of water flooding now under way in Bradford and Allegany, and although it is expensive it quickly brings big results in increased output. It has resulted in a great rush of the drill there and at the present time more than 300 strings of tools are running in the Bradford district and more than 50 in the Allegany Field. Drillers and tooldressers are being attracted there from all parts of the East by good wages and the prospect of steady work. All the larger operating companies have pretentious programs under way, the South Penn alone employing 60 drilling crews in their operations and planning to put down about 600 wells before the close of the year.

For the first time in history Bradford crude is now being sent through the pipe lines into the Oil City and Warren refining districts in good sized quantities, and this has resulted in an increased volume of business for the National Transit Co. The volume of its traffic during the six months has been greater than for any similar period of recent years. On July 1 a combined tariff went into effect on the lines of the New York Transit Co. and the National Transit Co. for the shipment of crude from the state line into the Oil City and Warren refining districts. This will add materially to the amount of crude coming from the north into the Oil City area, which is fast becoming one of the greatest refining centers in the Appalachian fields.

The Bradford Field showed marked improvement in activity, but some of the other fields in this district were also much more active than they have been for some time. For instance, during the six months in the Venango-Clarion area there were 191 completions, which compares favorably with 97 for the first six months of 1928.

There is now good activity at Church Run, near Titusville, scene of one of the earliest oil excitements. The sand there was unintentionally saturated with water which, when combined with gas re-pressuring being employed, resulted in good wells, and today there are about 300 wells in the district producing about 1 bbl. a day each, a good average for that district.

The most exciting oil news in these fields for the half year, exclusive of the Bradford and Allegany development, followed the bringing in of a 100-bbl. producer not far from Shippensville, Clarion County, in a field which promises to result in a fair sized development. The oil

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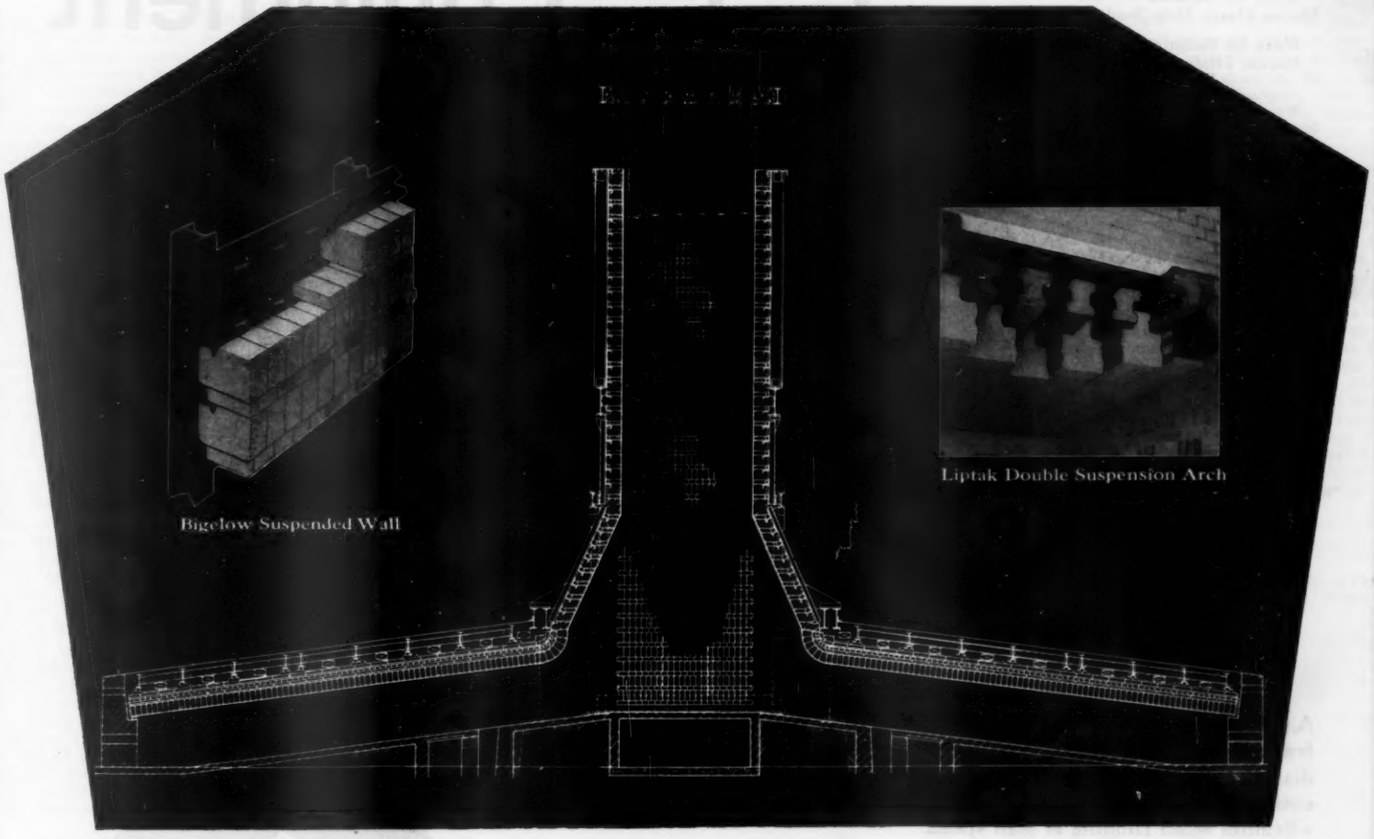
BIGELOW-LIPTAK Furnace Walls and Arches are particularly suited to refinery needs



THE adaptability of Bigelow-Liptak Walls and Arches to refinery conditions is well illustrated by the drawing showing how Bigelow Suspended Walls and Liptak Double Suspension Arches are used on the Lentz Still of the Manhattan Oil Co.

But adaptability is only one of the characteristics that are valuable to the refinery . . . Bigelow-Liptak products minimize furnace shut-downs for repairs, and the time the stills are off stream.

Bigelow Suspended Walls do not crack and permit the infiltration of cold air as a result of expansion and contraction. Every tile is individually supported to permit both lateral and vertical expansion, and the wall load is not carried by the refractory material. Stability is an important characteristic of the Bigelow Wall.

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However, one type of wall and arch construction will not give the best results in all kinds of furnaces and under all operating conditions. That is the reason for the other Bigelow-Liptak products listed in the panel. Competent engineering service is available to help you solve your furnace problems. Write for information.

Bigelow-Liptak Products

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BIGELOW-LIPTAK CORPORATION

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Sales Offices in Principal Cities—Main European Office: **Liptak Furnace Arches, Ltd., 38 Victoria St., London, S. W. 1, England**

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Write for Bulletin No. 36A
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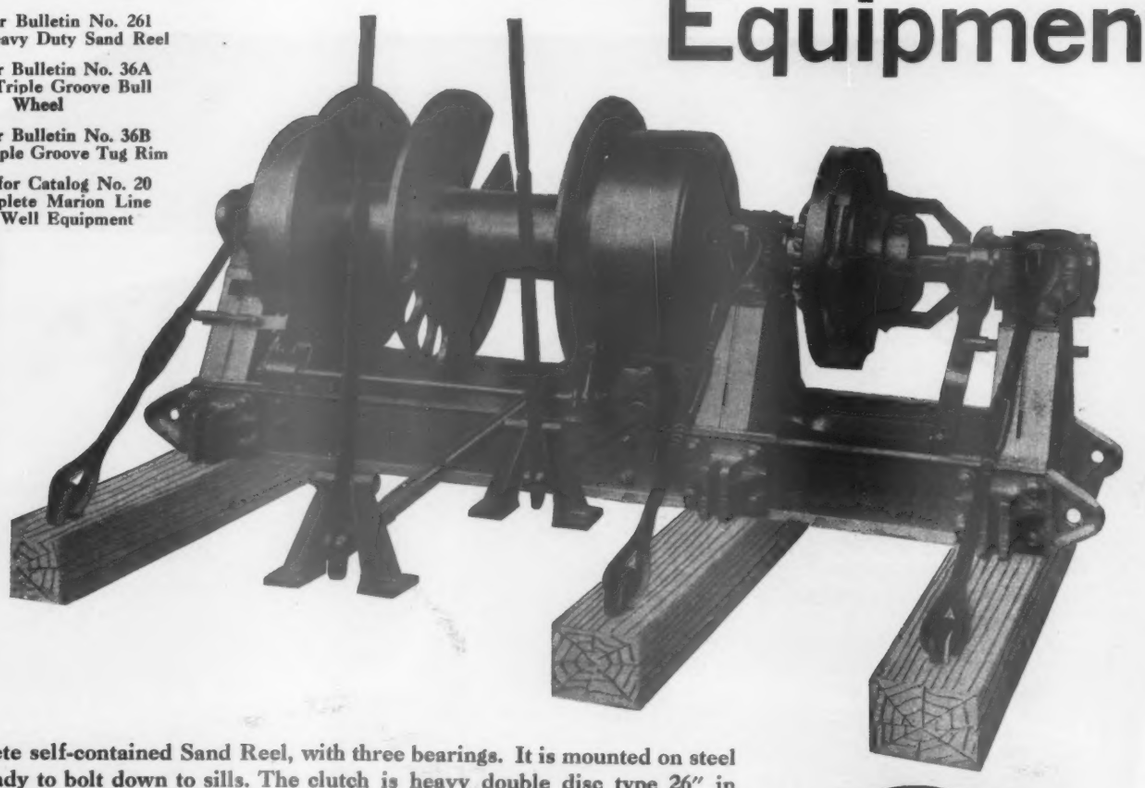
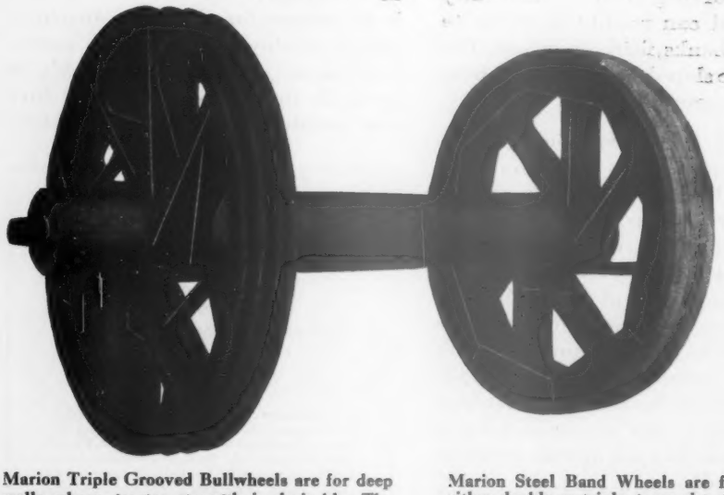


A complete self-contained Sand Reel, with three bearings. It is mounted on steel frame ready to bolt down to sills. The clutch is heavy double disc type 26″ in diameter with asbestos lined discs. The clutch has only one adjustment and can easily be regulated in five minutes. The clutch is perfectly balanced and has no vibration when running at high speed.



Marion Triple Grooved Bullwheels are for deep wells where greater strength is desirable. The grooved rim is rolled from one piece of steel plate and riveted to eight arms made of 12″ channel. ***Write for particulars.***

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New Mexico Held Stage in First Half

No Important Pools Opened in Rocky Mountain Area, but Discoveries Were Made in All States Save Utah

By Tolbert R. Ingram
Staff Correspondent, Rocky Mountain Area

Drilling operations in the Rocky Mountain area during the first half of 1929 were conducted on a smaller scale than in the same period of last year with the exception of southeastern New Mexico. While several important discoveries were made in the various states there were no new pools opened that threatened to disturb the equilibrium of the oil situation.

In New Mexico the principal activity was in the southeastern area in Lea County where the search for hidden structures was continued with better success, several producing wells having been completed in widely scattered territory. A new pool, the extent of which is not yet disclosed, was opened up northeast of the Artesia Pool in Eddy County, while two oil wells and several gasser were completed in the Jal area in Lea County and several promising highs farther north in the same county yielded both oil and gas in the wildcats. In the northwestern part of the State an important discovery in a new horizon was made on the Rattlesnake Dome in the Pennsylvanian formation at 6,771 feet by the Continental Oil Co. Fifty-one wells with initial production of 4,364 bbls. were completed during the six months period in New Mexico, which compares with 38 wells and 864 bbls. production in the same period last year. There were 36 dry holes and 8 gas wells compared with 24 dry holes and 4 gas wells in the first six months of 1928.

Utah failed to open a pool during the period, though one well on the Boundary Butte structure held out considerable promise when the half year ended. A flank test on the Cane Creek Dome cut the thick beds of salt found on top and was abandoned. Three wells, all dry holes, were completed in Utah, or just half the number completed in the same period last year.

Completions in Colorado declined from 68 with initial production of 6,534 bbls. in the first half of last year to 46 completions and 4,464 bbls. of new production in the first half of 1929. The number of dry holes dropped from 31 to 22. The Wellington Pool was extended one-quarter of a mile to the south, deeper sands not previously drilled were found productive of gas on the Hiawatha Dome in Moffat County, two Sundance sand tests on the Moffat Dome definitely established the status of the deeper horizon, and two wells on the Iles Dome apparently defined the productive limits on the west and southwest.

While Wyoming had only 39 completions in the first half of 1929 as against 105 in the same period last year, the new production amounted to 9,870 bbls. initial against 7,586 bbls., the increase in flush production being due to several good completions in Salt Creek. There were only 8 dry holes against 45 during the first half of last year. Salt Creek accounted for 22 of the 39 completions. The Frannie Pool was extended a half-mile to the northwest by the only well completed there this year. The productive limits of the saddle between the two domes at Oregon Basin were defined by several water wells. Oil was found in a deeper horizon at Oregon Basin, and a test to the granite in Big Horn County resulted in a failure.

NEW MEXICO

While several important oil and gas discoveries were made in Lea County, New Mexico, during the first half of 1929, and valuable information as to geological conditions was gained as a result of drilling operations, no wells of gusher proportions comparable with those in West Texas, south of New Mexico, were opened up. However, the progress made in defining the probable productive areas was considerable and from now on development will proceed with a much better knowledge as to the trend of the highs and with encouraging prospects for success.

The Jal district, at the southern end of the county and just north of Winkler County, Texas, was the scene of the greatest activity. In order to describe the results accomplished so far this year in that area, it is recalled that the discovery well, the Texas Production Co.'s No. 1 Rhoades, SE NE NW, Section 22-26-37, was completed in the fall of 1927 at 3,216 feet with an initial production of 22,000,000 feet of gas and 120 bbls. of oil. This well will be used as a measuring point. Eleven miles due northwest from No. 1 Rhoades, the Marland Oil Co.'s No. 1 Seideman, SW cor., Section 4-25-36, was abandoned at 4,125 feet in the summer of 1928. Two and one-half miles northeast of No. 1 Rhoades, the Midwest Refining Co.'s No. 19 Farnsworth, NW SW SW, Section 12-26-37, was temporarily abandoned at 4,115 feet last April after drilling below the horizons which had been found productive in other wells in that area. Six miles to the west of No. 1 Rhoades, Cranfill & Reynolds' No. 1 State, NE SE NE, Section 23-26-36, was abandoned last December at 3,500 feet with a hole full of sulphur water. These wells apparently outline the Jal district on all sides with the exception of the south which extends into Winkler County. This gives an area approximately 12 miles long and 5 miles wide with a northwest-southeast trend.

Inside of this area as above outlined 6 gas wells, including the discovery, and 2 oil wells have been completed up to June 30, 1929. No. 1 Rhoades, the discovery well, is not classed as an oil well although it is making oil with the gas, it being listed as a gasser. The best of the oil wells was the Skelly Oil Co.'s No. 1 Joyner, NE cor. SE, Section 26-25-36, which was completed at a total depth of 3,339 feet in April with a production of 850 bbls. the first 24 hours. This well is located 1½ miles to the southwest of the Marland's No. 1 Sholas, a gasser, and about a half mile west of the northwest-southeast trend of the big gassers. The Gypsy Oil Co. is drilling an offset on the east of the No. 1 Joyner in its No. 1 Humphreys, NW cor. SW, Section 25-25-36, and the Magnolia Petroleum Co. is offsetting it on the north in its No. 1 Lindley, SE cor. NE, Section 26-25-36. The other oil well was Cranfill & Reynolds' No. 1 Wilson, NE NW NE, Section 23-25-36, approximately 1½ miles to the north and a little to the west of No. 1 Joyner, which was completed in June at a total depth of 3,400 feet with an initial production of 60 bbls. after plugging back from 3,424 feet to shut off sulphur water. The gas wells completed in the area outlined above since January 1, 1929, include the following: Midwest Refining Co.'s No. 13 Farnsworth, SE NE NE, Section 13-26-36, completed in March at a total depth of 3,127 feet with an open flow capacity of 35,000,000 feet of gas; the Texas Production Co.'s No. 1 Cagle, SW NE SW, Section 9-26-37, completed in January at a total depth of 3,473 feet with an es-

WYOMING

Daily Average and Monthly Production First Six Months of 1929

	January (bbls.)	February (bbls.)	March (bbls.)	April (bbls.)	May (bbls.)	June (bbls.)	Total 6 mos. (bbls.)
BIG MUDDY:							
Daily average	2,304	2,182	2,307	2,345	2,342	2,266	
Month	71,424	61,124	71,517	70,350	72,602	67,980	414,997
OREGON BASIN:							
Daily average	2,353	3,921	2,793	2,461	3,163	4,131	
Month	72,943	109,788	86,583	73,830	98,053	123,930	565,127
BYRON:							
Daily average	34	33	35	32	25	10	
Month	1,054	924	1,085	960	775	300	5,098
DUTTON:							
Daily average	.....	.....	50	47	13	31	
Month	.....	.....	1,550	1,410	403	930	4,293
ELK BASIN:							
Daily average	792	722	792	865	823	785	
Month	24,552	20,244	24,552	25,950	25,513	23,550	144,361
FERRIS:							
Daily average	42	26	23	20	26	15	
Month	1,302	728	713	600	806	450	4,599
GRASS CREEK:							
Daily average	2,177	2,177	2,255	2,327	2,311	2,283	
Month	67,487	59,276	69,905	69,810	71,641	68,490	406,609
GREYBULL:							
Daily average	11	4	5	.....	.....	11	
Month	341	112	156	.....	.....	330	938
HAMILTON:							
Daily average	606	621	616	715	994	1,015	
Month	18,786	17,388	19,096	21,450	30,814	30,450	137,984
LA BARGE:							
Daily average	2,042	1,994	1,892	1,771	1,795	1,926	
Month	63,302	55,832	58,652	53,130	55,645	57,780	344,341
LANCE CREEK:							
Daily average	291	273	276	262	273	243	
Month	9,021	7,644	8,556	7,860	8,463	7,290	48,834
LOST SOLDIER:							
Daily average	3,477	3,157	3,397	3,311	3,204	3,598	
Month	107,787	88,396	105,307	99,330	99,324	107,940	608,084
OSAGE:							
Daily average	523	140	458	655	676	591	
Month	16,213	17,920	14,198	19,650	20,956	17,730	106,667
POISON SPIDER:							
Daily average	1,293	928	1,207	698	872	930	
Month	40,083	25,984	37,417	20,940	27,032	27,900	179,356
ROCK CREEK:							
Daily average	3,281	2,262	2,325	2,453	2,513	2,306	
Month	101,711	63,336	72,075	73,590	77,903	69,180	457,795
REX LAKE:							
Daily average	122	114	113	117	134	118	
Month	3,782	3,192	3,503	3,510	4,154	3,540	21,681
LANDER:							
Daily average	557	281	505	512	421	252	
Month	17,267	7,868	15,655	15,360	13,051	7,560	76,761
SALT CREEK:							
Daily average	28,774	32,156	32,480	31,012	31,178	29,058	
Month	891,994	900,365	1,006,880	930,360	966,518	871,740	5,567,860
SIMPSON RIDGE:							
Daily average	62	54	55	53	49	55	
Month	1,922	1,512	1,705	1,590	1,519	1,650	9,398
ANT HILLS:							
Daily average	19	.....	.....	.....	.....	.....	
Month	589	.....	.....	.....	.....	.....	589
FRANNIE:							
Daily average	.....	.....	.....	10	21	53	
Month	.....	.....	.....	300	961	1,590	2,851
TEAPOT DOME:							
Daily average	15	25	.....	15	50	35	
Month	465	700	.....	450	1,550	1,050	4,215
TORCHLIGHT:							
Daily average	2	.....	.....	.....	.....	.....	
Month	62	.....	.....	.....	.....	.....	62
MULE CREEK:							
Daily average	.....	.....	.....	.....	133	970	
Month	.....	.....	.....	.....	4,123	28,800	32,923
Daily average	48,777	51,512	51,584	49,681	51,026	50,672	50,530
Total 1929	1,512,087	1,442,336	1,599,104	1,490,430	1,581,806	1,520,160	9,145,923
Total 1928	1,756,505	1,598,602	1,714,889	1,748,520	1,908,918	1,834,410	10,561,844
Total 1927	.....	.....	.....	.....	.....	.....	10,779,747
Total 1926	.....	.....	.....	.....	.....	.....	14,180,785

timated capacity of 65,000,000 feet of gas; and the Pueblo Oil Co.'s No. 1 Crosby, SW SW, Section 29-25-37, completed in June, 1929, at 3,075 feet as an 18,000,000-foot gasser. These wells are on the direct line of the gas wells which trend in a northwestern-southeastern direction. Following the failure of the Midwest's No. 19 Farnsworth, there has been practically no exploration work done on the northeastern flank of the high indicated by these wells. It will be noted that none of these wells is closer than 2 miles to its nearest neighbor while some are much farther apart and this indicates the area that still remains to be explored.

Farther north of the Jal district, the Marland Oil Co. drilled a wildcat in 1928 in its No. 1 Danciger, SW cor., Section 7-23-36, in the Ochoa district, which was abandoned at 4,035 feet. During the first half of 1929, better results were obtained, however, when the company completed its No. 1 Lynn, NW cor. SE, Section 26-23-36, 5 miles southeast of the failure, as a 45,000,000-foot gasser at a total depth of 3,930 feet after plugging off bottom water. In between these two wells, the Texas Pacific Coal & Oil Co. drilled its No. 1 State, SE cor. SW, Section 22-23-36, which was completed in June for 15,000,000 feet of gas with 1,350 pounds pressure at a total depth of 3,800 feet after plugging back from 3,995 feet to shut off sulphur water. This high, as shown by the three wells drilled, has a northwest-southeast trend similar to the high in the Jal district. The Midwest Refining Co. has gone 2½ miles to the east of the Texas Pacific Coal & Oil Co.'s No. 1 State and is drilling its No. 31 Hughes, SW cor. NW, Section 19-23-37, which is expected to disclose the possibilities in that direction.

Still farther to the north in Lea County, it will be recalled that late in 1928, the Empire Gas & Fuel Co.'s No. 1 State, NE cor. NW, Section 8-21-35, in the San Simone district, was completed at 3,835 feet making around 100 bbls. of oil and about the same amount of water. This high with a northwest-southeast trend, yielded some interesting and important developments. Seven miles to the southeast of the Empire's well, the Marland Production Co.'s No. 1 Lockhart, NE NW NW, Section 31-21-36, was completed in March at 3,990 feet and made 278 bbls. of oil the first 24 hours after cleaning out. Three miles to the east and a half mile to the south of No. 1 Lockhart, the Gypsy Oil Co.'s No. 1 Ramsey, SW cor., Section 34-21-36, was completed as a 20,000,000-foot gas well at 3,856 feet after plugging back from 3,959 feet to shut off water. Nine miles to the west and 1 mile north of the Empire's No. 1 State, the Texas Production Co. brought in one of the best wells so far completed in Lea County in its No. 1 Beulah Lynch, NW cor. SE, Section 34-20-34. It was completed at 3,731 feet and gauged 996 bbls. in 24 hours on June 17. The oil is 32 gravity and there was no gas with it. Four and one-half miles northeast of the Empire's No. 1 State, the Marland's No. 1 Reed, NE cor. SW, Section 22-20-36, was a failure and abandoned at 4,420 feet, and 1¾ miles west and a half mile south, the Empire's No. 1-C State, SW cor., Section 12-21-34, also was a failure and abandoned at a total depth of 4,194 feet after running into sulphur water at 3,860 feet.

Still farther to the northwest of the area just described, the Marland Production Co. had a failure in its No. 1 Brooks, NW cor. SW, Section 8-20-33, which was abandoned at 4,003 feet. In the same general area but much farther to the east, the Marland's No. 1 Meyer, SW cor. NW, Section 26-20-37, was a small gasser at 3,880 feet after plugging off bottom water, and the same company's No. 1 Warren, SE SW SW, Section 28-20-38, was abandoned at 4,215 feet.

Another Lea County discovery was in the Vacuum Oil Co.'s No. 1 State, center of the line between Sections 13 and 14-17-34, in a new area which has had practically no drilling. It was completed at 4,710 feet and through a 2½-inch tubing at 4,496 feet made 231 bbls. in 17 hours.

In the Hobbs area where the Midwest Refining Co. brought in the discovery well in 1928 in its No. 1 State, NE cor., Section 9-19-38, several wells are being drilled, but none of these has yet reached the pay and there is no material change in that situation. The Maljamar Oil & Gas Co.'s No. 2 Pearsall, C NE NE, Section 33-17-32, which tested the southern end of the Maljamar, or Caprock Pool, was abandoned at 4,339 feet and failed to add any new territory to that pool. In the southwestern part of Lea County, Hill & Abel drilled a test on the SW cor., Section 5-26-33, in their No. 1 Maechtel, which was abandoned at 5,006 feet without getting out of the salt section.

New Pool in Eddy

The only discovery of importance in Eddy County was in Flynn, Welch & Yates' No. 1 Jackson, C NE, Section 13-17-30, which opened a new pool 12 miles northeast of the Artesia Pool and between the last named and the Caprock, or Maljamar Pool. It was completed in March at a total depth of 3,560 feet and averaged 269 bbls. a day the first 10 days. It topped the salt at 525 feet and found the base at 1,275 feet. The top of the lime was found at 2,959 feet and the oil was found in breaks at 3,447-51 feet, 3,462 feet and 3,560 feet. The discovery was followed by the area becoming the most active in the county. However, no additional wells have been completed except the Ohio Oil Co.'s No. 1 Sellery, SE cor. NE, Section 22-16-30, which was abandoned at 2,308 feet. It had water in a red sand at 2,280 feet. Its location is approximately 5 miles northwest of No. 1 Jackson. Another well being drilled by the Grayburg Oil Co. in its No. 2 Burch, C NW SW, Section 19-17-30, is showing up favorably and at this writing looks as if it will come in as a producer. It is 5½ miles to the southwest of No. 1 Jackson. Six wells drilling in the area will disclose the importance of the pool within the next few weeks. The Twin Mounds Pool, 15 miles southeast of the Artesia Pool had one good completion in George F. Getty, Inc.'s No. 4 Dooley, in the SE NE, Section 23-20-29, which flowed 1,466 bbls. of 22 gravity oil in 24 hours from a total depth of 1,356 feet. It also made 1,500,000 feet of gas with the oil. This firm went to the southwest, 5 miles from the nearest producer, and drilled a test in its No. 3 Bates & Martin, SE cor. SW, Section 31-20-29, which was abandoned at 1,096 feet in salt water. Sullivan & Randall also had a failure on the east side of the pool in its No. 1 State, NW cor. SW, Section 19-20-30, which was abandoned in salt water at 1,320 feet. Twin Mounds, from wells so far drilled, appears to be a small pool of heavy oil and probably will be productive over an area embracing much less than 640 acres.

Deep Oil in San Juan

A discovery of considerable importance was made on the Rattlesnake Dome in San Juan County, in the northwestern corner of the State, where structural conditions are different from what they are in southeastern New Mexico, in the Continental Oil Co.'s No. 17 Santa Fe Corp., C NE, Section 2-29-19. There are several structures in that area producing high gravity oil from the Dakota sands at less than 1,000 feet. These include the Rattlesnake, Table Mesa and Hogback Domes. In September, 1925, the Continental started No. 17 as a deep test to the Pennsylvanian, which had never been drilled on any of these structures. It cased off 2,500 bbls. of production in the Dakotas and entered the Pennsylvanian formation at 5,050 feet. At 6,730-35 feet it cut a salt water horizon and the prospects were not considered favorable. However, at 6,770 feet it picked up an oil pay and the well began making 300 bbls. of oil with 3,000 bbls. of water. The last string of casing run was the 4¾-inch and efforts were made to underream and lower this string for a water shutoff, but this proved to be impossible, and then attempts were unsuccessfully made to shut off the water with a packer. The well then was drilled 4 feet deeper and allowed to flow. The quantity of oil has increased to around 800 bbls. a day, and the water has shown some decrease. The well is not yet a completion and it is believed that if the water can be shut off it will make a much bigger producer. The importance of the discovery lies not only in opening a deeper horizon on the Rattlesnake Dome but in making it almost certain that similar conditions will be found on the

(Continued on Page 245)

MONTANA

Daily Average and Monthly Production First Six Months of 1929

	January (bbls.)	February (bbls.)	March (bbls.)	April (bbls.)	May (bbls.)	June (bbls.)	Total 6 mos. (bbls.)
CAT CREEK:							
Daily average	1,432	1,241	1,393	1,417	1,422	1,435	
Month	44,392	34,748	43,183	42,510	44,082	43,050	251,965
KEVIN-SUNBURST:							
Daily average	5,417	5,386	5,362	5,597	6,674	6,860	
Month	167,927	150,808	166,222	167,910	206,894	205,800	1,065,561
PONDERA:							
Daily average	1,500	2,493	2,725	2,867	3,118	3,202	
Month	46,500	69,804	84,475	86,010	96,658	96,060	479,507
LAKE BASIN:							
Daily average	80	82	3	80	84	90	
Month	2,480	2,296	93	2,400	2,604	2,700	12,573
Daily average	8,429	9,202	9,483	9,961	11,298	11,587	9,998
Total 1929	261,299	257,656	293,973	298,830	350,238	347,610	1,809,606
Total 1928	363,370	339,679	358,112	350,520	338,272	313,260	2,063,213
Total 1927	.....	.....	.....	.....	.....	.....	2,473,040
Total 1926	.....	.....	.....	.....	.....	.....	1,429,835

COLORADO

Daily Average and Monthly Production First Six Months of 1929

	January (bbls.)	February (bbls.)	March (bbls.)	April (bbls.)	May (bbls.)	June (bbls.)	Total 6 mos. (bbls.)
CRAIG:							
Daily average	844	1,032	1,076	994	1,578	1,569	
Month	26,164	28,896	33,356	29,820	48,918	47,070	214,224
FORT COLLINS:							
Daily average	2,725	2,601	2,527	2,534	2,416	2,469	
Month	84,475	72,828	78,337	76,020	74,896	74,070	460,626
FLORENCE:							
Daily average	1,112	1,095	1,166	1,096	984	951	
Month	34,472	30,660	36,146	32,880	30,504	28,530	193,192
ILES:							
Daily average	1,608	1,333	1,519	1,249	1,553	1,868	
Month	49,848	37,324	47,089	37,470	48,143	56,040	275,914
TOW CREEK:							
Daily average	516	322	461	573	563	491	
Month	15,996	9,016	14,291	17,190	17,453	14,730	88,676
MISCELLANEOUS:							
Daily average	131	127	126	125	123	126	
Month	4,061	3,556	3,906	3,750	3,813	3,780	22,866
Daily average	6,936	6,510	6,875	6,571	7,217	7,474	41,583
Total 1929	215,016	182,280	213,125	197,130	223,727	224,220	1,255,498
Total 1928	234,635	232,625	259,563	203,610	204,383	218,940	1,353,756
Total 1927	.....	.....	.....	.....	.....	.....	1,398,539

NEW MEXICO

Daily Average and Monthly Production First Six Months of 1929

	January (bbls.)	February (bbls.)	March (bbls.)	April (bbls.)	May (bbls.)	June (bbls.)	Total 6 mos. (bbls.)
ARTESIA:							
Daily average	979	1,002	953	910	915	912	
Month	30,349	28,056	29,543	27,300	28,365	27,354	170,967
CAP ROCK (Maljamar):							
Daily average	203	329	230	220	407	415	
Month	6,448	9,212	7,130	6,600	12,617	12,450	54,457
LEA AND EDDY:							
Daily average	392	513	513	491	805	840	
Month	12,152	14,364	15,903	14,730	24,955	25,200	107,304
HOGBACK:							
Daily average	539	347	510	303	303	185	
Month	16,709	9,716	15,810	9,090	9,548	5,557	66,430
RATTLESNAKE:							
Daily average	585	643	675	1,191	686	579	
Month	18,135	18,004	20,925	35,730	21,266	17,368	131,428
TABLE MESA:							
Daily average	125	144	10	173	.....	28	
Month	3,875	4,032	310	5,190	.....	833	14,240
Daily average	2,828	2,978	2,891	3,288	3,121	2,959	3,010
Total 1929	87,668	83,384	89,621	98,640	96,751	88,762	544,826
Total 1928	74,365	59,981	69,347	68,160	73,470	58,860	404,683
Total 1927	.....	.....	.....	.....	.....	.....	773,105

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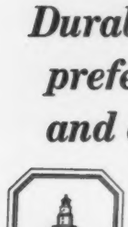

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It has unusual tenacity and hiding power. One coat, in most cases, is sufficient for complete protection when applied to wood, brick, stucco, concrete and masonry, as well as metal surfaces. Two coats are recommended for new galvanized iron, but no special priming coats are required for this surface.

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La.-Ark. District Has Two New Pools

Neither of Major Importance. First Half of Year Saw Louisiana's Gas Industry Develop Under Consolidations

By D. H. Bancroft
Staff Correspondent, Louisiana-Arkansas

Discovery of two new oil pools, development of the western extension of Champagnolle, Union County, Arkansas, rapid expansion of activities in the Monroe and Richland gas areas and more or less drilling to deeper horizons throughout the territory featured the first half year's activities in proven areas of the Shreveport division. Of the two new pools, the first—the Mount Holly district in southwestern Ouachita County, Arkansas, proved to be more or less a flash in the pan, as only three producers, including the discovery well, resulted from that discovery out of eight wells drilled. The second new pool, the Dixie district of Caddo Parish, Louisiana, 10 miles north of Shreveport, opened in March, appears to hold considerably more promise, though there is still some doubt as to how large it will prove to be and how long it will produce. To date it has developed eight producing wells from a total of 12 completions, and production as of July 4, totaled 42,474 bbls. One well, about a mile south, has shown possibilities of producing, and two wells in the Mount Holly district, all that are now drilling in that area, show promise of producing from a new sand 80 to 100 feet higher than the original pay. The Dixie district has 19 operations under way, including rigs and locations, and wildcats and semi-wildcats.

Mount Holly Discovery

The Mount Holly discovery well, C. H. McDonald's No. 1 Wilson in the SE co. SW NW, Section 25-15-18, Arkansas, was completed on March 14, a month before the McDonald Brothers' No. 1 Wilson, in the SW cor. NE SW of the same section, which started one month ahead of the other. The discovery produced an initial of 270 bbls. of 41 gravity oil from 6 feet of sand, total depth 2,866 feet. McDonald Brothers' well had filled four fourbles of drill stem with oil from a total depth of 2,861 feet during November, but had twisted off about 2,200 feet of stem and lost a lot of 4½-inch casing in the original well, which was finally abandoned in February as a junked hole. They skidded about 50 feet north and completed the second hole as a 45-bbl. pumper, total depth 2,871 feet, from which it had filled up 2,500 feet in oil on April 18.

Immediately after C. H. McDonald had completed his discovery well the Atlantic Oil Producing Co. & E. M. Jones started No. 1 Allen, a northeast offset to it, which tested dry at 2,855-65 feet, the last three feet of which was oil sand, abandoning the location on May 2. A week later McDonald Brothers confirmed this northern limit of production with No. 2 Wilson in the NE cor. SW NW, Section 25, north offset to the discovery, which tested salt water at 2,906 feet after drill stem tests at 2,369-73 feet had been barren. This was on May 9, and the day Root Refineries' completion of No. 1 Wilson, in the SW cor. SE NW, Section 25-15-18, an east offset to the discovery, gave hope that production might go that way when it started off pumping 40 bbls. from 2,845 feet. It had swabbed dry from 2,841-44 feet, but after standing 24 hours had filled up 1,900 feet with oil, and was deepenend to 2,855 feet, plugging back 10 feet when it failed to improve.

The next two tests were failures. Magnolia Petroleum Co.'s No. 1 Wilson, in the NW cor. SE SW, Section 25-15-18, a south offset to McDonald Brothers' No. 1 Wilson, limited production on the south when it failed to realize on an oil show at 2,852-59 feet, and was dry again in sand at 2,870-72 feet, and was finally abandoned after drilling to 3,104 feet without picking up anything worth testing. The second of these two failures was Cumberland Oil Co.'s No. 1 Burton, in Section 24-15-18, a mile and a half east of the discovery well. It tested salt water at 2,870 feet and drilled to 2,943 feet, where it was abandoned. Two other tests, about as far west of the discovery well as the Cumberland Oil Co.'s was east, were abandoned, one as a location after the first had tested dry. Both were on the Bearden land in Section 27-15-18, No. 1 drilling on to 3,220 feet before quitting without having found anything to test. The last of the series was Sam Khouri's No. 1 Henson in Section 24-15-18, also abandoned as a location.

Pipe Line to Field

Shortly after the discovery well came in the Texas Pipe Line Co. built a 4-inch extension to the new pool from its gathering system in the Louann district of Smackover, and to date has run approximately 12,000 bbls. Production fell quickly after the three wells were brought in, the first two wells ceasing to flow within three weeks and doing a small fraction of their initial production when put on the beam. Production was from the red beds, but about 200 feet higher than production from the same formation in the Champagnolle district in the northeastern corner of Union County, some distance southeast of Mount Holly. Drilling experience, limited as it has been, has shown a decided lack of uniformity in the producing horizon. Opinion seems to be that the pool is badly faulted fanwise to the southwest, south and southeast, but the field lasted so short a while that not much of its geology is known.

Dixie Pool in Louisiana

Developments to date in North Louisiana's only new pool, the Dixie district of Caddo Parish, indicates that it is a repetition of Champagnolle as to its being a spotted area, with dry holes offsetting producers—in other words, a lensed condition in the Woodbine, though some authorities maintain it is producing from the Ouachita group of which a spotted sand condition, they claim, is a characteristic.

The first well in the pool was completed May 2, a month after the pay was discovered, and it was certain a producer would result. It was D. C. R. Oil Co.'s No. 1 Hunter in the C NW NW, Section 17-19-14, and in bringing it in D. C. Richardson, Jr., duplicated the last exploit of his father, who was a pioneer operator in Caddo in 1904-6 and who, a short time before his death two or three years ago, opened a new pool in "condemned" territory. The Dixie discovery well was dry in the Blossom sand and went into red shale from 2,390 to 2,422 feet, having two feet of sand at 2,412-14 feet. It drilled to 2,442 feet and on drill stem test filled 20 fourbles of drill pipe with 40 gravity oil in 40 minutes. This was

(Continued on Page 249)

NORTH LOUISIANA

Daily Average and Monthly Production First Six Months of 1929

	January (bbls.)	February (bbls.)	March (bbls.)	April (bbls.)	May (bbls.)	June (bbls.)	Total 6 mos. (bbls.)
CADDO (Light):							
Daily average	9,131	8,843	8,499	8,139	8,246	8,721	
Month	283,061	247,604	263,469	244,170	255,626	261,630	1,555,560
CADDO (Heavy):							
Daily average	2,760	2,293	3,106	3,228	3,214	3,276	
Month	85,560	64,204	96,286	96,840	99,634	98,280	540,804
HOMER:							
Daily average	4,049	4,011	3,988	4,007	4,103	3,972	
Month	125,519	112,308	123,628	120,210	127,193	119,160	728,018
HAYNESVILLE:							
Daily average	5,497	5,518	5,499	5,395	5,325	5,237	
Month	170,407	154,504	170,469	161,850	165,075	157,110	979,415
DESOTO-RED RIVER:							
Daily average	4,063	3,918	3,985	3,944	3,840	3,875	
Month	125,953	111,580	123,535	118,320	119,040	116,250	714,678
ELM GROVE:							
Daily average	597	593	601	593	598	605	
Month	18,507	16,604	18,631	17,790	18,538	18,150	108,220
BELLEVUE:							
Daily average	801	719	658	689	634	605	
Month	24,831	20,132	20,398	20,670	19,654	18,150	123,835
COTTON VALLEY:							
Daily average	3,258	3,050	2,951	3,044	2,805	2,734	
Month	100,998	85,400	91,481	91,320	86,955	82,020	538,174
URANIA:							
Daily average	5,296	5,652	2,853	5,861	5,908	5,890	
Month	164,176	158,284	180,885	175,830	183,148	176,700	1,039,023
PLEASANT HILL:							
Daily average	489	469	454	487	475	465	
Month	15,159	13,132	14,074	14,610	14,725	13,950	85,650
SAREPTA-CARTERSVILLE:							
Daily average	.....	224	230	253	243	252	
Month	.....	6,272	7,130	7,590	7,533	7,560	36,085
Daily average	35,941	35,358	35,806	35,640	35,391	35,632	35,632
Total 1929	1,114,171	990,024	1,109,986	1,069,200	1,097,121	1,068,960	6,449,462
Total 1928	1,369,146	1,313,555	1,369,115	1,411,890	1,383,034	1,272,040	8,118,780
Total 1927	1,589,122	1,474,004	1,589,711	1,511,250	1,469,710	1,435,020	9,068,817
Total 1926	1,343,788	1,288,000	1,511,319	1,556,580	1,530,705	1,809,180	9,339,472
Total 1925	1,519,434	1,346,105	1,538,037	1,566,131	1,600,306	1,520,325	9,080,338
Total 1924	1,398,370	1,314,242	1,498,574	1,311,142	1,401,835	1,617,610	8,541,773
Total 1923	2,272,641	1,911,560	2,204,319	2,136,590	2,125,298	1,986,283	12,636,691

ARKANSAS

Daily Average and Monthly Production First Six Months of 1929

	January (bbls.)	February (bbls.)	March (bbls.)	April (bbls.)	May (bbls.)	June (bbls.)	Total 6 mos. (bbls.)
EL DORADO:							
Daily average	4,927	4,784	4,563	4,638	4,695	4,690	
Month	152,737	133,952	141,453	139,140	145,545	140,700	853,527
SMACKOVER (Light):							
Daily average	6,995	6,626	6,343	6,222	6,159	6,071	
Month	216,845	185,528	196,633	186,660	190,929	182,130	1,158,725
SMACKOVER (Heavy):							
Daily average	51,883	51,111	50,271	49,001	48,830	48,595	
Month	1,608,373	1,431,108	1,558,401	1,470,030	1,513,730	1,457,850	9,039,492
STEPHENS:							
Daily average	1,008	1,015	1,010	1,022	1,015	1,026	
Month	31,248	28,420	31,310	30,660	31,465	30,780	183,883
NEVADA COUNTY:							
Daily average	1,466	1,385	1,304	1,224	1,103	990	
Month	45,446	38,786	40,424	36,720	34,193	29,700	225,269
LISBON:							
Daily average	1,627	1,500	1,460	1,383	1,340	1,306	
Month	50,437	41,989	45,260	41,490	41,540	39,180	259,896
BRADLEY:							
Daily average	98	101	100	100	100	100	
Month	3,038	2,819	3,109	3,000	3,100	3,000	18,057
CHAMPAGNOLLE:							
Daily average	11,142	10,414	9,263	9,366	8,376	7,631	
Month	345,402	291,592	287,153	280,980	259,656	228,930	1,693,713
Daily average	79,146	76,936	74,314	73,956	71,618	70,327	74,213
Total 1929	2,453,526	2,154,194	2,303,734	2,188,680	2,220,158	2,112,270	13,432,562
Total 1928	2,791,922	2,571,575	2,687,948	2,472,600	2,843,847	3,075,911	16,443,803
Total 1927	4,076,469	3,574,256	3,853,920	3,378,240	3,493,669	3,365,760	21,742,314
Total 1926	5,489,604	4,756,836	5,115,837	5,127,510	5,482,939	5,064,760	31,037,486
Total 1925	3,252,303	2,886,296	3,564,473	7,560,230	11,813,996	9,200,372	38,277,670
Total 1924	3,686,680	2,302,750	3,882,695	4,068,225	4,659,117	4,756,443	24,335,910
Total 1923	3,222,605	2,740,024	2,978,802	2,873,820	3,219,219	3,463,227	18,497,807

NEW—
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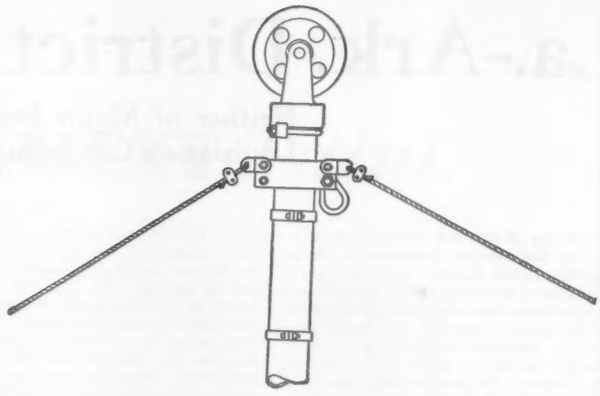
8 H. P.



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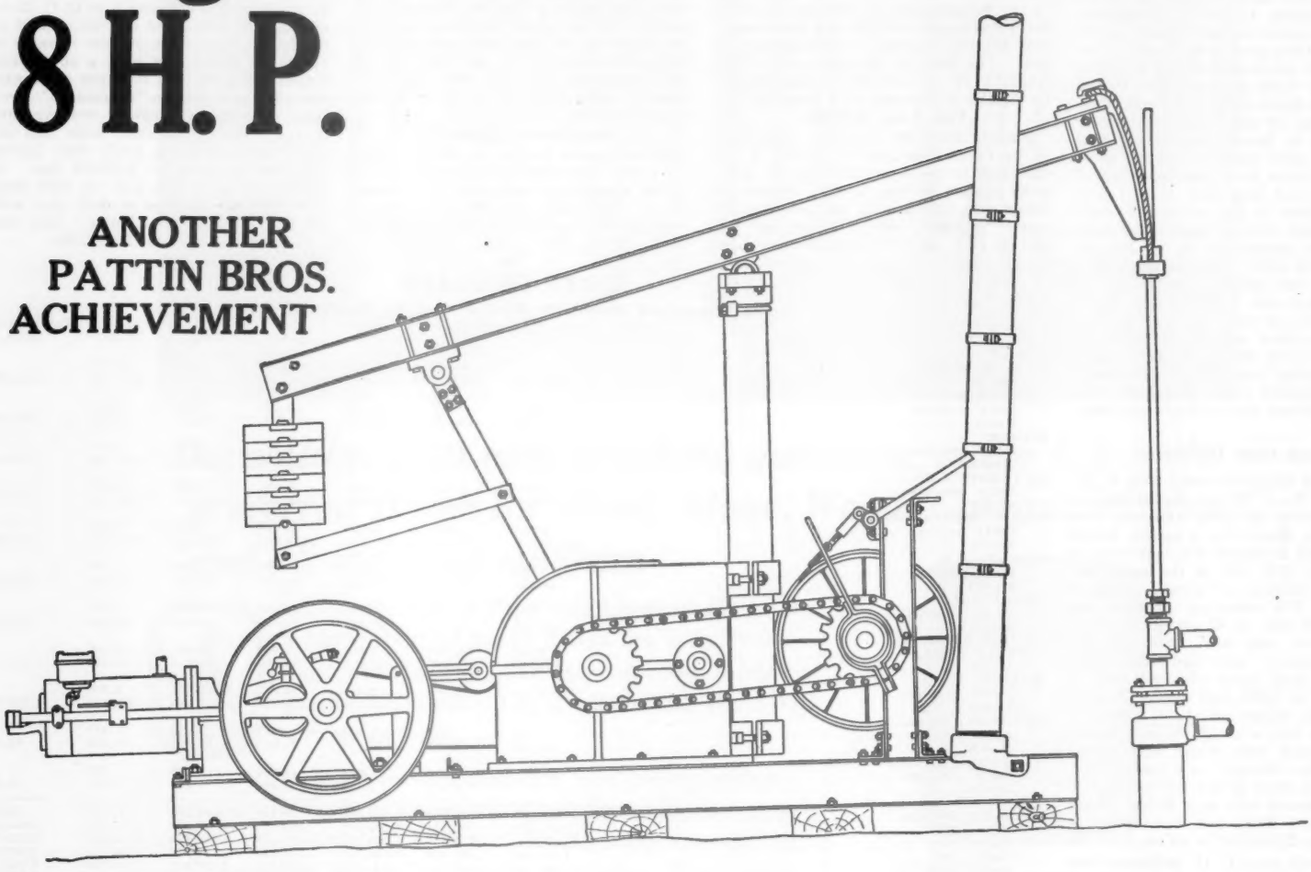

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It has a 36-ft. mast, spool will hold 3,000 ft. ½ inch line; two brake bands 26 inches diameter, 3 inch face, operated by hand or foot clutch on spool. Shaft can be thrown in or out while spool is running. Engine is fitted with force feed lubricator suitable for twenty-four hours run.

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We recommend this power for wells 2,500 feet deep. It will pull rods or tubing or handle bailer.

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Notable Half Year in Kansas Fields

Pools Opened in Several Central and Western Counties. Big Leasing Campaign and Widely Scattered Drilling

By W. A. Spinney
Staff Correspondent, Kansas Fields

In all the years that oil has been sought in Kansas, and the search dates back to 1865, it is doubtful if ever so large an area was being covered by wildcat operations as in the first six months of 1929. It is certain that no such wildcatting campaign was ever so well financed as that of this year when all the major oil companies and many others have been busy all the way westward to the Colorado line. Deep tests have been started which will not be finished until oil or gas is found in paying quantity or the holes have been drilled to a hopeless depth.

While completions were reported from 42 counties in the State, there was a great letup in the number of wells finished as compared with other years. Only 489 completed wells were reported as against 624 in the first half of 1928; 1,209 in the first half of 1927, and 864 in the first half of 1926. The completion included only 245 oil wells, 206 dry holes and 38 gas wells. The dry hole percentage was unusually high. The 245 oil wells had a total initial production of 78,523 bbls., or an average of 320.5 bbls., which compares favorably with the 201.56-bbl. average in the first half of last year, and 156.42-bbl. average in the same period in 1927.

The State produced a total of 18,784,674 bbls. in the six months, which figures do not take into consideration the quantity of oil used for fuel on leases. The production was less than in the same period last year when 19,760,362 bbls. were produced, and it was less than that of the first half of 1927 and 1926, as the accompanying table will show, but it was on the increase at the close of the half year and undoubtedly will increase considerably in the last half of the year.

Notwithstanding its age as a producing area, Butler County led in production with Greenwood County second and Sedgwick County third. Butler produced 4,552,133 bbls.; Greenwood, 3,803,441 bbls., and Sedgwick, 3,422,644 bbls.

Sedgwick Busiest Field

Sedgwick County leads the state in operations and new productions this year. A survey shows more drilling wells in that county and more completions during the past six months than in any other county in the state. Because the area is made up of many small tracts it necessitates the drilling of more wells than in a territory of large farms or ranches.

Western Kansas has been getting a lease play that has covered practically every county west of the meridian line. Over 100 blocks of leases have been taken and the play has extended into Colorado and Nebraska.

The development of pools in the Wichita district, Sedgwick County, was, in the main, responsible for the revival of wildcatting and the increase in production in the first half of the year. In 1928 production in the State began slipping in April, continuing downward until the close of the year and to even lower levels in the early weeks in 1929. In February the State's crude oil output had fallen to 91,000 bbls. a day, and then the upward swing began to average daily production of 122,000 on June 30, but with a promise of exceeding all past records in the last half of the year. It was predicted at the beginning of the last half that Kansas would reach the 150,000-bbl. a day mark before it began to slump, and that figure was based on what was in sight and did not take into consideration new pools that might be opened as a result of the big wildcatting campaign in several counties.

The discovery of oil in paying quantity in Sedgwick County was made on August 29, 1928, by the Gypsy Oil Co. and Marland Oil Co. in their wildcat test No. 1 Wright, in Section 12-26-1w, near Valley Center. It came after a dozen years of sporadic wildcatting in the county and after most oil companies had given up hope of finding oil in that county. The production of Sedgwick County in 1929 was 378,851 bbls., divided as follows: September, 50,400 bbls.; October, 46,066 bbls.; November, 111,420 bbls.; December, 170,965 bbls. The Marland Oil Co., on January 6, opened a new producing area in its No. 1 Goodrich, Section 16-25-1e, in the township adjoining that in which the discovery well was drilled. The Marland discovery started at the rate of 1,500 bbls. a day. Before the close of the month it quit flowing and was put on the pump.

The Valley Center Pool was extended by the completion of the Mary Jane Oil Co.'s No. 1 Fitch, NW SE SW, Section 6-26-1e, in the western part of the township. The pay was found at 3,380 feet and the well flowed 178 bbls. the first four hours, and made 1,350 bbls. the first 24 hours. The pool was extended north and west of the Mary Jane Oil Co.'s well by a test drilled in Section 12-26-1w. Because of the fact that the tracts in the neighborhood of the Mary Jane Oil Co.'s well were of small acreage an agreement was reached among the lease owners to space all wells no nearer than 275 feet from property lines.

Eight miles east of the Valley Center Pool, E. B. Shawver and others completed No. 1 Broeis, NW SW, Section 5-26-1e, in chat at 3,020 feet, and it swabbed 95 bbls. in 12 hours, and the Barnsdall Oil Co.'s test on the Samuels farm, NE NW, Section 24-25-1e, made 170 bbls. the first day from chat at 3,064-67 feet. It was a rank wildcat.

An important area was opened by the Shell Petroleum Corp. in its No. 1 Lygrisse, SE NE, Section 15-26-2e, which made 2,200 bbls. from pay at 3,164-66 feet. It was several miles from the nearest production and started a lot of drill-

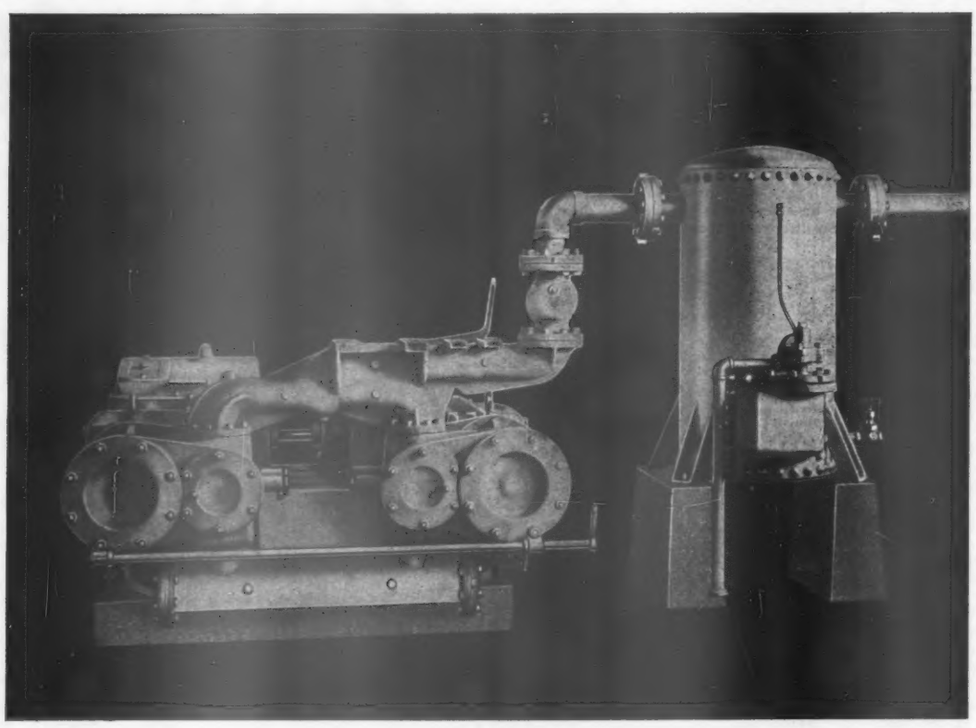
KANSAS

Daily Average and Monthly Production First Six Months of 1929

	January (bbls.)	February (bbls.)	March (bbls.)	April (bbls.)	May (bbls.)	June (bbls.)	Total 6 mos. (bbls.)
MARION COUNTY:							
Florence-Urschell—							
Daily average	418	395	410	408	405	407	
Month	12,958	11,060	12,710	12,240	12,556	12,210	73,733
Peabody—							
Daily average	1,281	1,533	1,142	1,267	1,202	1,211	
Month	39,711	42,924	35,402	38,010	37,262	36,330	229,639
Covert-Sellers—							
Daily average	542	530	521	520	1,485	538	
Month	16,802	14,840	16,151	15,600	46,035	16,140	125,568
Lost Springs—							
Daily average	1,385	1,330	1,117	363	777	760	
Month	42,935	37,240	34,627	10,890	24,087	22,800	172,579
Davis—							
Daily average	.....	.....	.....	.....	1,098	1,010	
Month	.....	.....	.....	.....	34,038	30,300	64,338
BUTLER COUNTY:							
Elbing—							
Daily average	1,749	1,685	1,598	1,505	1,609	1,612	
Month	54,219	47,180	49,538	45,150	49,879	48,360	294,326
Potwin—							
Daily average	413	379	371	390	391	387	
Month	12,803	10,612	11,501	11,700	12,121	11,610	70,347
Cameron-Robinson—							
Daily average	485	464	495	498	485	469	
Month	15,035	12,992	15,345	14,940	15,035	14,070	87,417
Wilson-Dunkle—							
Daily average	1,450	1,415	1,498	1,407	1,403	1,411	
Month	44,950	39,620	46,438	42,210	43,493	42,330	259,041
Towanda—							
Daily average	2,045	1,922	2,046	2,041	1,988	1,979	
Month	63,395	55,776	63,426	61,230	61,628	59,370	364,825
Fox-Bush—							
Daily average	884	842	831	960	990	981	
Month	27,404	23,576	25,761	28,800	30,690	29,430	165,661
Nuttle-Koogler—							
Daily average	1,463	1,460	1,598	1,647	1,651	1,656	
Month	45,353	40,880	49,538	49,410	51,181	49,680	286,042
El Dorado—							
Daily average	6,740	6,845	7,222	7,219	7,081	7,063	
Month	208,940	191,660	223,882	216,570	219,511	211,890	1,272,453
Smock—							
Daily average	161	157	168	164	173	169	
Month	4,991	4,396	5,208	4,920	5,363	5,070	29,948
Leon-Weaver—							
Daily average	5,921	5,594	5,824	5,641	5,552	5,611	
Month	183,551	156,632	180,544	169,230	172,112	168,330	1,030,399
North Augusta—							
Daily average	812	757	793	770	801	797	
Month	25,172	21,196	24,583	23,100	24,831	23,910	142,792
South Augusta—							
Daily average	1,087	1,152	1,321	1,320	1,159	1,171	
Month	33,697	32,256	40,951	39,600	35,929	35,130	217,563
Sluss—							
Daily average	243	237	256	264	271	269	
Month	7,533	6,636	7,936	7,920	8,401	8,070	46,496
Douglass—							
Daily average	120	119	119	117	107	111	
Month	3,720	3,332	3,689	3,510	3,317	3,330	20,898
Keighly—							
Daily average	814	776	731	711	701	713	
Month	25,234	21,728	22,661	21,330	21,731	21,390	134,074
Benton—							
Daily average	17	17	19	19	23	62	
Month	527	476	589	570	713	1,860	4,735
Blankenship—							
Daily average	709	668	696	733	666	671	
Month	21,979	18,704	21,576	21,990	20,646	20,130	125,025
GREENWOOD AND WOODSON COUNTIES:							
Sallyards—							
Daily average	1,208	1,124	1,088	1,161	1,165	1,159	
Month	37,448	31,472	33,728	34,830	36,115	34,770	208,363
Teeter-Pixley-Scott—							
Daily average	5,172	5,207	5,123	5,334	5,200	5,216	
Month	160,332	145,796	158,813	160,020	161,200	156,480	942,641
Virgil—							
Daily average	5,951	5,785	5,472	5,239	5,194	5,188	
Month	184,481	161,980	169,632	157,170	161,014	155,640	989,917
Thrall-Burkett—							
Daily average	1,486	1,395	1,370	1,491	1,464	1,460	
Month	46,066	39,060	42,470	44,730	45,384	43,800	261,510
Seeley—							
Daily average	5,415	5,247	6,076	6,244	6,197	6,189	
Month	167,865	146,916	188,356	187,320	192,107	185,670	1,068,234
Polhamus—							
Daily average	845	841	877	894	873	870	
Month	26,195	23,548	27,187	26,820	27,063	26,100	156,913
Miscellaneous—							
Daily average	909	921	915	1,076	991	1,016	
Month	28,179	25,788	28,365	32,280	30,721	30,480	175,813

(Continued on Next Page)

Drilling the Oil



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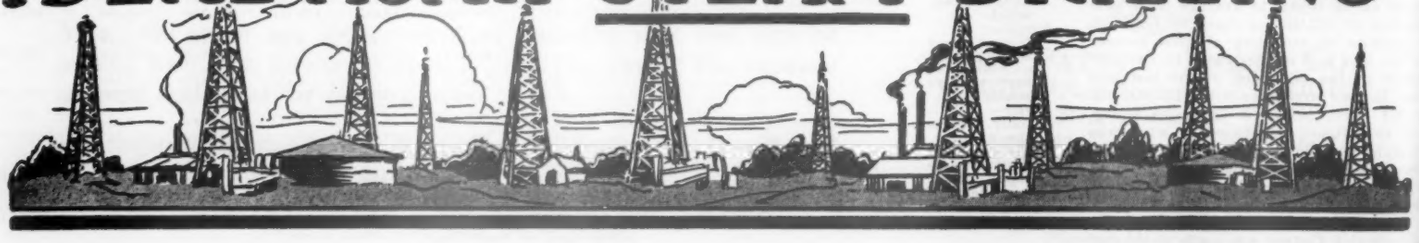

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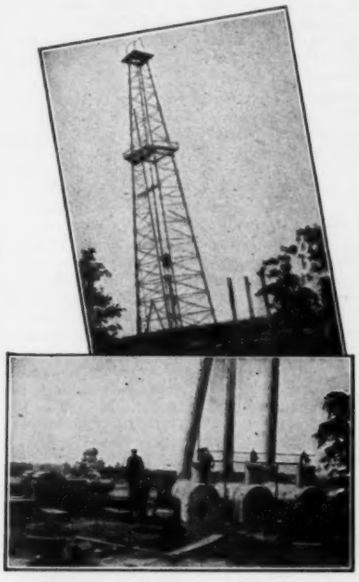

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ing. The Shell Petroleum Corp. also opened a new producing area in the town of Greenwich, Sedgwick County, with its No. 1 on Lot 17, Block 7, in Section 15-26-2e. The well started at 1,555 bbls. the first 16 hours from chat at 2,922-24 feet. It was a half mile extension to the Lygrisse Pool. Six other tests were started on the Greenwich townsite.

Offsetting the Marland Oil Co.'s discovery well in Section 16-25-1e, the same company drilled No. 1 Westerfield, NW SE SW, Section 16-25-1e. It was dry in the chat from which the discovery well produced, and was drilled deeper to the Simpson lime, from which it produced 248 bbls. the first 15 hours from pay at 3,326-38 feet.

The several successes in wildcat drilling led to a general drilling campaign in the county. In the first half of the year 108 wells were completed in Sedgwick area, of which 69 were oil wells and 39 were dry holes. The initial daily production of oil wells aggregated 55,667 bbls., or an average of 843 bbls. per well. The production of the county in the first half of 1929 was 3,422,664 bbls., divided by months as follows: 199,175 bbls. in January, 196,504 bbls. in February, 322,555 bbls. in March, 631,200 bbls. in April, 975,260 bbls. in May, and 1,097,970 bbls, in June.

Operating in Sedgwick County was not all a bed of roses. Jones & Kirk drilled a test in the center of what was regarded as good territory in the east side of the Valley Center area and got a hole full of water in the Simpson at 3,413-15 feet. The test was located in NW cor. Section 6-26-1e. Townsite wells in Valley Center all found water, some with their oil and others with no oil, and water was encountered in many of the oil wells in other parts of the county. This was not surprising as similar conditions were encountered in the development of the great Butler County pools to the east.

The installation of a recently devised pumping device increased the production of the Marland Production Co.'s No. 1 Goodrich in Section 16-25-1e. The well had dropped to 1,420 bbls. when the pump was installed and it immediately increased its output to 2,750 bbls. per day.

Butler County

The old Butler County Field, which was opened about 15 years ago and which has been one of the world's great producing areas, furnished an occasional good well in the first half of the year. Fifty-two wells were completed in the county, of which 21 were dry. The 29 new oil wells produced an aggregate of 4,750 bbls. in initial daily production, or an average of 164 bbls. per well.

In the Haverhill Pool, in Butler County, a 12-year-old development, the Empire Oil & Refining Co.'s No. 1 Willetts, NE NW, Section 27-27-5, was good for 250 bbls. in the Bartlesville sand at 2,729-72 feet. The same company's No. 7 Willetts, SE SW, Section 22-27-5, started 200 bbls. Same company's No. 5 B. Hutchinson, NW NE, Section 27-27-5, made 350 bbls. a day from the Bartlesville sand at 2,727-64 feet. The above wells are the best producers registered in this territory in some time. Empire Oil & Refining Co.'s No. 75 Koogler, SW SE NE, Section 19-26-5, was completed in the regular sand at 2,539-2,609 feet and produced 210 bbls. the first 24 hours. A community test has been started by the Carter Oil Co., Prairie Oil & Gas Co., White Eagle Oil & Refining Co., and Hartman & Skaer, each owning an undivided quarter interest. It will be located in the SW cor. Section 17-25-3e. The Lario Oil & Gas Co.'s No. 1 Glancy, SW cor. Section 10-26-3, made 65 bbls from chat at 2,760-70 feet. The well was a wildcat and is 6 miles east of the Lygrisse Pool in Section 15-26-2 in Sedgwick County.

The new pools in Marion County have been spotted. Shell Petroleum Corp. completed a dry hole offsetting the discovery well of C. B. Davis in the Davis Pool, Marion County, opened late in 1928. The latest failure was in the NW SW Section 7-19-3, where the test had a show of gas and a hole full of water at 2,435-65 feet. The failures have discouraged additional development in that area. Empire Oil & Refining Co.'s No. 1 Seiderman, SE NE, Section 12-19-2, was drilled deeper after being a failure in chat. The well drilled into lime at 2,823-25 feet, where the hole filled up with oil.

Hartman & Skaer's No. 1 Kline, NE NW, Section 28-18-3, a wildcat, found a hole full of water at 2,960-65 feet, and the test was abandoned.

A State Line Pool

Gypsy Oil Co.'s wildcat well No. 1 Williams, Section 16-35-3w, which is only 300 feet north of the Oklahoma state line in Sumner County, Kansas, made one of the largest wells that has been completed in Kansas this year. It came in in April. The test filled up 2,000 feet with oil from a sand at 4,428-46 feet, and made one small flow. It was deepened to the Wilcox sand horizon, which was found at 4,768-82 feet, and made 60 bbls. the first hour. It was then pinched in to erect tanks and get a pipe line to the well. It was later allowed to produce its maximum, which was 1,700 bbls. in 24 hours. The oil tests 46 degrees gravity and ranks with the best grades of oil produced in the state. Prairie Oil & Gas Co.'s No. 4 Olsen was a sensational producer in an area that was long considered by many oil operators to be capable of yielding only small wells. The test was located among small pumpers on a lease that had three other wells, and the best they had ever produced was 25 bbls. a day. Its location was in the NW NE NW, Section 3-25-2. It flowed 2,015 bbls. the first 24 hours. The production was coming from chat at 3,447-75 feet. The completion of this well caused several new locations to be made and tests started in the immediate vicinity.

A new deep sand horizon was uncovered by the Champlin Oil & Refining Co.'s No. 1 Love, NE SW SE, Section 9-30-2w at 3,202 feet, where the well started producing 100 bbls. a day. All the other wells in this district are get-

(Continued on Page 260)

KANSAS (Continued)

	January (bbls.)	February (bbls.)	March (bbls.)	April (bbls.)	May (bbls.)	June (bbls.)	Total 6 mos. (bbls.)
COWLEY COUNTY:							
Rainbow Bend—							
Daily average	889	833	1,280	1,295	1,300	1,117	
Month	27,559	23,324	39,680	38,850	40,300	33,510	203,223
Slick—							
Daily average	560	548	502	597	582	589	
Month	17,360	15,344	15,562	17,910	18,042	17,490	101,618
Graham—							
Daily average	359	344	273	271	273	271	
Month	11,129	9,632	8,463	8,130	8,463	8,130	53,947
Rock—							
Daily average	133	176	174	151	177	169	
Month	4,123	4,928	5,394	4,530	5,487	5,070	29,532
Clark—							
Daily average	136	151	142	143	145	146	
Month	4,216	4,228	4,402	4,290	4,495	4,380	26,011
Eastman—							
Daily average	424	913	412	394	402	397	
Month	13,144	25,564	12,772	11,820	12,462	11,910	87,672
Winfield-New Salem—							
Daily average	1,788	1,758	1,391	1,323	2,763	2,005	
Month	55,428	49,224	43,121	39,690	85,653	60,150	333,266
Miscellaneous—							
Daily average	585	561	547	726	767	753	
Month	18,135	15,708	16,957	21,780	23,777	22,590	118,947
OTHER COUNTIES:							
Sumner—							
Daily average	13,808	13,676	12,828	12,102	13,072	12,900	
Month	428,048	382,928	397,668	363,060	405,232	387,000	2,363,936
Rooks—							
Daily average	20	15	17	16	16	18	
Month	620	420	527	480	496	540	3,083
Rice—							
Daily average	617	813	972	964	832	818	
Month	19,127	22,764	30,132	28,920	25,792	24,540	151,275
Russell—							
Daily average	3,449	3,399	3,491	3,403	3,557	3,511	
Month	106,919	95,172	108,221	102,090	110,267	105,330	627,999
Reno—							
Daily average	30	21	39	21	29	27	
Month	930	588	1,209	630	899	810	5,066
Sedgwick—							
Daily average	6,425	7,018	10,405	21,040	31,460	36,599	
Month	199,175	196,504	322,555	631,200	975,260	1,097,970	3,422,664
McPherson—							
Daily average	.....	.....	240	237	224	221	
Month	.....	.....	7,440	7,110	6,944	6,630	28,124
Harvey—							
Daily average	21	24	26	20	23	21	
Month	651	672	806	600	713	630	4,072
Coffey—							
Daily average	261	251	242	241	239	241	
Month	8,091	7,028	7,502	7,230	7,409	7,230	44,490
Chautauqua—							
Daily average	2,277	2,235	2,201	2,215	2,222	2,280	
Month	70,587	62,580	68,231	66,450	68,882	68,400	405,130
Elk—							
Daily average	2,438	2,341	2,170	2,010	2,013	1,911	
Month	75,578	65,548	67,270	60,300	62,403	57,330	388,329
Wilson—							
Daily average	188	178	179	181	181	171	
Month	5,828	4,984	5,549	5,430	5,611	5,130	32,532
Montgomery—							
Daily average	1,317	1,268	2,433	1,233	1,231	1,264	
Month	40,827	35,504	75,423	36,990	38,161	37,920	264,825
Allen—							
Daily average	642	490	458	471	477	517	
Month	19,902	13,720	14,198	14,130	14,787	15,510	92,247
Neosho—							
Daily average	516	531	483	462	459	520	
Month	15,996	14,868	14,973	13,860	14,229	15,600	89,526
Lyon—							
Daily average	960	780	816	850	705	712	
Month	29,760	21,840	25,296	25,500	21,855	21,360	145,611
Miami—							
Daily average	1,359	1,055	879	1,014	1,001	920	
Month	42,129	29,540	27,249	30,420	31,031	27,600	187,969
Franklin—							
Daily average	412	407	329	377	375	366	
Month	12,772	11,396	10,199	11,310	11,625	10,980	68,282
Douglas—							
Daily average	18	19	19	20	20	21	
Month	558	532	589	600	620	630	3,529
Bourbon—							
Daily average	9	9	11	9	10	11	
Month	279	252	341	270	310	330	1,782
Linn—							
Daily average	283	202	186	192	191	189	
Month	8,773	5,656	5,766	5,760	5,921	5,670	37,546
Anderson—							
Daily average	1,683	1,517	1,392	1,427	1,431	1,450	
Month	52,173	42,476	43,152	42,810	44,361	43,500	268,472
Labette—							
Daily average	22	20	21	20	20	21	
Month	682	560	651	600	620	650	3,743
Chase—							
Daily average	24	18	18	18	19	12	
Month	744	504	558	540	589	360	3,295
Woodson—							
Daily average	933	918	923	912	911	890	
Month	28,923	25,704	28,613	27,360	28,241	26,700	165,541
Daily average	92,311	91,356	95,196	103,758	118,229	121,205	103,783
Total 1929	2,861,641	2,557,968	2,951,076	3,112,740	3,665,099	3,636,150	18,784,674
Total 1928	3,319,325	3,079,887	3,379,031	3,412,360	3,367,809	3,202,050	19,760,362
Total 1927	3,769,879	3,352,076	3,675,143	3,516,930	3,704,314	3,437,580	21,455,922
Total 1926	3,250,536	2,877,812	3,334,887	3,330,120	3,516,640	3,366,450	19,676,445
Total 1925	2,520,858	2,466,660	2,824,534	2,971,110	3,493,266	3,175,440	17,451,868
Total 1924	2,223,878	2,112,853	2,206,426	2,268,540	2,459,765	2,469,380	13,740,842
Total 1923	2,638,975	2,360,288	2,588,531	2,624,430	2,852,217	2,797,830	15,862,271

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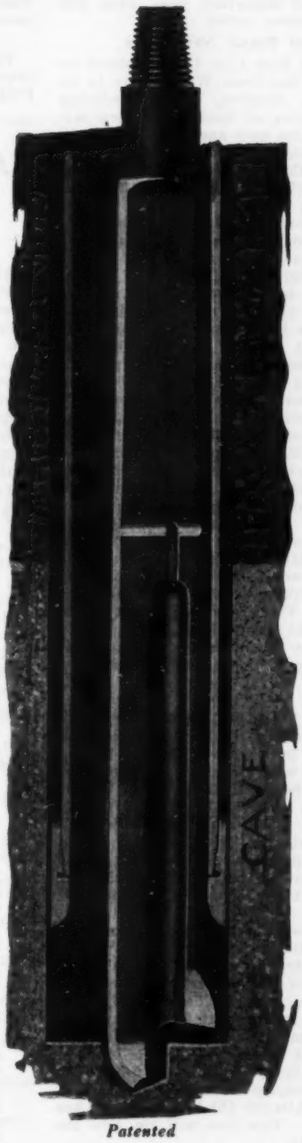

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Gas Lines Feature Pipe Line Work

First Half of the Year Saw Big Natural Gas Projects Put Through. Important Oil Lines Laid in West Texas

The building of important natural gas lines featured the pipe line building in the first half of 1929. A few major oil pipe lines were constructed, but the bulk of the big work in that division of the oil and gas industry came with the discovery and development of the great fields in West Texas and central Oklahoma. These lines were completed, for the most part, before the end of 1928, leaving little to be done to supply facilities for shipping oil out of big producing territories. The natural gas business, on the other hand, sought outlets for the immense gas production of Louisiana, Texas and New Mexico, and important lines were laid to quite distant cities.

West Texas' New Lines

The Shell Pipe Line Co. completed its 10-inch oil line from West Texas to its refinery at Houston, and immediately started running oil through this new carrier. The line gave another carrier from Winkler County down through Crane and Upton Counties, where, at McCamey, the company's 6-inch line from the Yates Pool, Pecos County, terminated at the company's large tank farm. The main trunk line connected with this tank farm. The new line has a capacity of 40,000 bbls. daily, but a daily average of around 27,000 bbls. is all that has been running through it, although since the daily allowance has been stepped up from 100,000 bbls. to 130,000 bbls. in the Yates Pool, the Shell line has started running and shipping more oil.

Another large trunk line was completed in June when the Texas Pipe Line Co. started running oil through its 10 and 12-inch main line from Jal, N. Mex., down through Winkler County, McCamey and the Yates Field, Pecos County, on July 1. This line has a capacity of approximately 60,000 bbls. daily, although the company may find it a difficult proposition to obtain enough crude to keep it running to capacity. At present it is running a little over 7,000 bbls. daily. The Texas Company is not a producer in the Yates Field, consequently is dependent on purchased oil from this area, and up to July 1 had not made any connections in the field to help fill its line.

The Gulf Pipe Line Co. was busy looping its 10-inch main line from its Midland, Tex., tank farm and main station at Ranger, and when this is completed, which will be soon, the capacity will be raised from 25,000 bbls. daily to around 50,000 bbls. This company has been satisfied to ship only Gulf oil from West Texas, except for a small amount which it shipped on a common carrier basis from the Yates Pool for a refinery in San Antonio.

The Atlantic Pipe Line Co. has a 10-inch trunk line running from the Winkler County fields, through Midland to Houston, and this line is carrying better than 38,500 bbls. daily. The company purchased the Independent Oil & Gas Co.'s carrier from the Hendricks Pool to a loading rack on the T. & P. Railroad at Pyote, and is laying a 16-mile 6-inch line from the Shipley Pool in Ward County where the Atlantic Oil Producing Co. has production. This line will tie into the line at Pyote.

Another line was laid from the Shipley Pool to the Wickett Refining Co. and a loading rack at Wickett. It is a 4-inch line, constructed by the Wickett Pipe Line Co. and is serving the Shipley and Harrison leases which are now on production in the Shipley Pool. These two small lines give plenty of outlet for that pool at present, and perhaps no others will be built to it unless production rises to such proportions as to warrant another line.

Lines Into New Mexico

The Texas Pipe Line Co. and Humble Pipe Line Co. have both been busy extending small gathering lines from Jal, N. Mex., and from Winkler County to various producers in the southeastern corner of Lea County, New Mexico, for that area did not have any method of marketing its production, and lines had to be run from the south to handle the present producers, and other drilling wells which look good for producers. With a big well by The Texas Company on their Sheppard lease in that area lately, activities have gained considerable momentum, and the companies and operators are now realizing that Lea County will probably produce a large amount of crude which will have to be piped out to the south.

Capacity Increased

The Humble Pipe Line Co. completed looping its 8-inch line from the Yates Pool to Kemper Station in Reagan County, and raised the capacity of that line from 18,000 bbls. to 25,000 bbls. daily. This line is serving the small producers in the Yates Field, as well as its affiliated company, the Humble Refining Co., and from the California, Mid-Kansas and Transcontinental Oil Co. leases. The Humble company was the pioneer crude purchaser in the field, having run a line in from the Crockett County side out to its Kemper Station by way of the Powell Pool in Crockett. It also made a long term contract with the Illinois Pipe Line Co. by which it is to receive 40,000 bbls. daily at its Lytle Station, on the main trunk line coming from the north and running to Corpus Christi, where it is loaded out on vessels for Atlantic Coast refineries.

The Humble Pipe Line Co.'s 10 and 12-inch Kemper-Ingleside trunk line has a capacity of 60,000 bbls. daily, and is running almost to capacity all the time, the two 8-inch lines out of Kemper to Comyn carrying around 53,000 bbls. daily, and running to capacity. These lines are filled with crude from all the West Texas fields, that is, from Crane and Upton County fields, Winkler County and Lea County, New Mexico. It is also getting a good supply from the Yates Pool, from the Powell Pool in Crockett County, and also from the Howard-Glasscock County Pool, having an 8-inch line running from a station just south of the Roberts Pool in Howard County to its main station at Kemper in Reagan County. The crude from this pool is transferred in the trunk lines running south and east, and is carried to the Gulf.

The Humble also built a short 4-inch line from its station in Howard County to the new discovery well of the World Oil Co. in northeastern Glasscock County and has contracted to take its production, and is running it at the present time. There is a possibility that the Humble will also run a line from its station in the Yates Pool to the new Taylor-Link producing area, 18 miles westerly, and it is reported that a short line will be run from the Brown & Fox well in Irion County to a point on the Orient Railroad where a loading rack will be built to handle the production from this probable new field.

Shell's Big Business

The Shell Pipe Line Co. is another large server for Winkler and Pecos County, where the Shell Petroleum Corp., its sister company, has a vast amount of production. It is also taking production from the California Co., Simms Oil Co., McMan Oil & Gas Co., and from a few leases of the Mid-Kansas and Transcontinental companies in the Yates Pool, while in the Winkler Field it is running production from the joint leases of The Texas Company and Shell Petroleum Corp., and some of the Shell Petroleum Corp.'s leases. Its 10-inch line to Healdton, Okla., is running over 41,000 bbls. daily and the 10-inch line to Houston is running over 27,000 bbls. daily, with the company seeking more production from other operating companies to fill the two lines to capacity. The line to Healdton runs near the Howard County Field

(Continued on Page 185)

EAST CENTRAL TEXAS' UNEVENTFUL HALF YEAR IN FIELD DEVELOPMENT

By Nell Williams

Although the inland salt dome area of East Central Texas is one of the most interesting in Texas from a potential oil standpoint, this was not evidenced in the development the first half of the year, which was one of the most inactive periods in the history of the entire East Central Texas division. There were some scattered leasing plays and geologists kept busy working over the territory, but in actual drilling there apparently was a general letting up.

The completion of a wildcat pumper in Hill County, J. Harper and associates' No. 1 Jones, producing only a small amount of oil with considerable salt water and b.s., was reported late in June but this caused no particular interest. Outside of the Boggy Creek Dome of Anderson and Cherokee Counties, this was the only new production brought in during the six months in any part of the East Central Texas division.

The six producers completed, five at Boggy Creek and one in Hill County, had an estimated initial production of only 2,514 bbls., as against the initial production of 9,184 bbls. of completions the preceding six months. Fifty-eight tests were abandoned during the first six months, while two others, both at Boggy Creek, made gas wells.

Magnolia in Boggy Creek

Possibly one of the most interesting developments having a bearing on operations was the settlement by which Magnolia Petroleum Co. obtained acreage on the north side of the Boggy Creek Dome, enabling that company to enter that area. All operations at Boggy Creek previously had been owned by the Humble Oil & Refining Co. and the Rio Bravo Oil Co. jointly.

A large territory along the Smith and Van Zandt County line has been in the limelight for several months with Pure Oil Co. conducting a thorough core test survey of surface indications with the possibility that a salt dome underlies that area. So far no deep tests have been drilled there.

Amerada Petroleum Corp. started drilling in March on its block in the J. H. Field Survey, near Kelsey, Upshur County. This test the first part of July

(Continued on Page 185)

EAST CENTRAL TEXAS

Daily Average and Monthly Production First Six Months of 1929

	January (bbls.)	February (bbls.)	March (bbls.)	April (bbls.)	May (bbls.)	June (bbls.)	Total 6 mos. (bbls.)
BOGGY CREEK:							
Daily average	2,477	3,457	3,687	3,197	2,696	2,703	
Month	76,775	96,791	114,299	95,896	83,563	81,098	548,422
CEDAR CREEK:							
Daily average	223	216	172	124	127	115	
Month	6,920	6,040	5,330	3,720	3,930	3,449	29,339
CURRIE:							
Daily average	521	472	465	440	422	421	
Month	16,172	13,218	14,420	13,220	13,076	12,638	82,744
MEXIA:							
Daily average	6,098	4,601	5,758	5,472	5,464	5,410	
Month	189,043	128,841	178,481	164,154	169,372	162,309	992,200
MINERVA:							
Daily average	720	721	705	686	690	672	
Month	22,315	20,200	21,847	20,576	21,375	20,152	126,465
NIGGER CREEK:							
Daily average	425	408	372	336	337	325	
Month	13,170	11,425	11,544	10,075	10,460	9,750	66,424
POWELL:							
Daily average	9,338	9,003	8,614	8,284	8,212	7,982	
Month	289,472	252,082	267,025	248,527	254,570	239,456	1,551,132
RICHLAND:							
Daily average	457	410	399	385	374	358	
Month	14,175	11,470	12,374	11,545	11,610	10,742	71,916
THRALL:							
Daily average	34	33	32	35	34	33	
Month	1,059	938	999	1,046	1,054	989	6,085
WORTHAM:							
Daily average	1,481	1,374	1,298	1,221	1,274	1,241	
Month	45,920	38,466	40,250	36,630	39,495	37,237	237,998
Daily average	21,774	20,695	21,502	20,180	19,630	19,260	20,513
Total 1929	675,021	579,471	666,569	605,389	608,505	577,820	3,712,775
Total 1928	797,384	727,384	780,967	727,455	736,122	706,269	4,475,481
Total 1927	1,479,568	1,398,208	1,442,554	1,254,690	1,066,028	1,032,720	7,673,768
Total 1926	1,928,851	1,759,548	1,822,614	1,763,979	1,703,853	1,557,780	10,536,616
Total 1925	6,376,586	4,518,416	4,888,917	4,111,490	3,863,375	3,379,740	27,138,524
Total 1924	4,177,591	4,241,507	5,073,367	4,629,510	4,283,859	3,918,390	26,324,224
Total 1923	2,010,702	1,780,465	1,996,015	1,833,301	1,928,871	2,209,222	11,758,576

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Cylinder Stocks Feature Half Year

Steam Refined and Bright Stocks Near High Point of Past 10 Years. Wax Prices Slump

By C. O. Willson

Steam refined cylinder stocks and bright stocks made from paraffin base crude oils experienced the greatest advance of any refinery product in United States for the first six months of 1929. An exceptionally heavy demand for these products which was apparent over the latter part of 1928 resulted in several price advances early in 1929 and at the end of the six months' period quotations were near the peak of the past 10 years.

Gasoline prices for the first three months of the year dropped from the high levels established in the last six months of 1928. At the end of the first quarter prices began to strengthen and substantial price advances materialized in several refining areas before the end of the half-year period. At the close of the half year, weakness was again apparent, despite a heavy demand for the domestic grade of motor fuel.

The kerosene market on the whole was favorable. The supply and demand were nearly equal over the first six months of 1929. A heavy spring demand brought about a scarcity and prices in several refining areas were higher than any period since 1926. Distillates used as furnace oils also were steady in price.

Fuel oil and gas oil were weak at the end of 1928 and this trend continued throughout the first six months of 1929. The general advance in crude oil prices in May did not improve this situation and prices at the end of the half year were exceptionally low.

Petroleum wax, which began to show price weakness late in 1928, continued to slump throughout the first half of 1929. At the close of June, prices in most areas were the lowest since 1923.

Lub Oil Situation

In general the price improvement in lubricating oils as shown in the accompanying tables was confined to the high viscosity stocks made from paraffin base crude oils with the greatest improvement in oils made from Pennsylvania grade crude oils. These high prices account for the rapid advance in Pennsylvania crude oil prices.

There was some improvement in the demand and price for the highest viscosity grades of pale and red oils made from asphaltic base crudes. The bulk of these oils, however, did not have the demand they have had in previous years, due to the trend toward the heavier paraffin oils.

The large increase in demand for these oils is explained as a development of the changes made in motor design. The higher compression engines found in most of the new cars requires a lubricating oil of high viscosity and high fire test. In compounding these motor oils of paraffin base stock, it is necessary to use large percentages of bright stocks and high viscosity neutral oils.

Pennsylvania Market

In addition to this general situation, eastern refiners operating with what is known as "Pennsylvania base crude oil" have been able to increase their share of the motor oil business. This has been done largely through the active sales promotion of individual companies and a national co-operative advertising campaign in which the qualities of lubricants made from Pennsylvania grade crude oil have been stressed.

This development was responsible for the increase in the weekly average price of Pennsylvania bright stock from 31.86 cents per gallon in 1928 to 45.20 cents per gallon the first six months of 1929. Starting with a price of 39 cents per gallon at the beginning of the year, the price advanced to a high of 57 cents in May. Prices receded from this peak in June. Similar increases materialized in all grades of steam refined stocks. The low viscosity neutral oils were a drug on the market but the higher viscosity grades were strong throughout the six months.

Mid-Continent grades of bright stocks and steam refined stocks did not advance as quickly as the Pennsylvania grades. The rapid advance in Pennsylvania prices brought new buyers to the Mid-Continent refiners and the latter part of the half year prices advanced rapidly. An average weekly price of 31 cents for 150-160 D color bright stock in Oklahoma compares with a price of 23.10 cents per gallon for the same grade in 1928. Starting at 28 cents the first of the year, this grade of bright stock closed the half year at 35 cents. A steam refined stock which averaged 8 cents in 1928 brought an average price of 10.42 cents the first half of 1929 in Oklahoma.

On the other hand a 200 viscosity 3 color neutral oil which in the past has been the principal grade of Oklahoma neutral brought an average price of 9.38 cents the first half of 1929. Last year the same product brought an average price of 9.47 cents. The higher viscosity grades of Oklahoma neutrals, of which there is a limited output, were stronger and brought higher prices than they did last year.

The average price of most grades of Gulf Coast neutrals were lower the first half of 1929 than they were for the previous year. The average weekly price for the 200 viscosity 3 color pale neutral at the Coast was 8.9 cents per gallon the first six months of 1929 and 9.06 cents in 1928. A 200 viscosity, 5 to 6 color red oil the first half of 1929 averaged 7.78 cents and 8 cents for 1928.

In California there was very little change in neutral oil prices over the first six months. Average prices were slightly higher than for the same period in 1929.

The advances in bright stocks and steam refined cylinder stocks for export movement were similar to those effective in the domestic market. A 600 steam refined cylinder stock, which brought an average price of 19.46 cents last year at New York for export movement, sold at an average price of 35.02 cents the first half of this year. A light 140-150 bright stock, which brought an average price of 44.5 cents per gallon in 1928, sold as high as 63 cents per gallon in May and June, with an average price of 53.4 cents for the first half of 1929.

Refinery Gasoline

As previously explained, the gasoline market at refineries the first half of 1929 experienced a decline followed by an advance the first six months of 1929. Before the year opened, prices had begun to recede from the high levels established in the summer of 1928. The last half year in 1928 was an exceptionally favorable period in the refinery gasoline market. Prices started to break in December and this downward trend extended into March of this year.

Prices, however, did not decline to as low levels as they did in the early part of 1928 so the average price for the first half of this year is higher than it was for the same period last year.

The average price for U. S. Motor gasoline in Oklahoma for the first half of 1929 was 7.79 cents per gallon. This compares with an average price of 6.44 cents the first half of 1928 and 7.22 cents the first half of 1927. East Coast domestic and export prices on gasoline did not advance as rapidly as they did in the Mid-Continent. In the New York domestic market U. S. Motor gasoline at Bayonne, N. J., brought an average price of 9.6 cents the first half of 1929. The average price for the first half of 1928 was 9.18 cents and 11.25 cents for the last half of the year. The export market at coastal points was not advanced in April, May and June when Mid-Continent refinery gasoline prices were steadily increasing. Due to this fact the average prices for the first half of the year were practically the same as for the same period in 1928.

Due to the price wars which have disturbed the market from time to time the average refinery prices for the principal domestic grades in California were lower the first half of 1929 than they were for all of 1928. The U. S. Motor grade fluctuated between a high of 10 cents and a low of 6 cents with an average price of 8.77 cents. Last year the average price for the first half was 8.74 cents and 9.64 cents for the second half.

The California, gasoline price for export and coastwise movement, which is lower than the domestic market, was higher the first half of 1929 than it was in the same period of 1928. California gasoline shipments to the East Coast via the Panama Canal increased approximately 50 per cent, so the California price greatly increased in importance as a price factor for the entire United States.

Natural Gasoline

In general, natural gasoline prices followed the trend of the refinery gasoline market. In the Mid-Continent, prices for the first half of 1929 were lower than for the last half of 1928 but higher than the first half of 1928. Average prices for one grade are representative of the price trends for all grades. Grade AA in Oklahoma brought an average price of 7.16 cents the first half of 1929. This compares with an average of 5.41 cents the first half of 1928 and 9.27 cents the last half of 1928. After an exceptionally strong demand the last half of 1928 consumption declined early in 1929 and as the half year ended the market was still weak.

In contrast to the Mid-Continent and eastern market situation, California natural gasoline prices for domestic shipment the first half of 1929 averaged higher than they did the last half of 1928. The average price the first half of 1929 for 75-78, 375-390 endpoint material was 7.77 cents. The same grade the first half of 1928 brought an average price of 6.72 cents.

Kerosenes and Distillates

In North Texas, which is representative of the Mid-Continent tank car market, the 41-43 water white grade of kerosene brought an average price of 5.68 cents the first half of 1929 with a high of 7.25 cents and a low of 5 cents. Last year the same grade brought an average price of 4.56 cents the first half and 5.5 cents the last half year.

The highest prices so far this year came in late March and early April. Heavy buying with low stocks resulted in a rapid price advance at interior re-

AVERAGE PRICES CRUDE OIL AND REFINED PRODUCTS

	1st 6 mos. 1929	1928	1927	1926	1925	1924	1923
OKLAHOMA—CRUDE OIL							
36 A.P.I. gravity, per bbl.*	$1.28	$1.31	$1.38	$2.13	$1.87	$1.63	$1.56
OKLAHOMA—REFINED PRODUCTS							
58-60 U. S. Motor gasoline, per gal.	.0779	.0795	.0667	.1031	.1055	.0896	.0978
Grade A, 72-79.9, 375 e.p., rec. 90%, per gal.	.0755	.0744	.0585	.0946	.1202	.0866	.0913
41-43, water white kerosene, per gal.	.0549	.0517	.0461	.0727	.0445	.0449	.04
24-26 fuel oil, per bbl.	.6460	.7694	.9792	1.3072	1.0908	.954	.9511
32-36 gas oil, per gal.	.0262	.0247	.0299	.0419	.0368	.0291	.0266
200 vis., 3 color, 23-28 cold test neutral oil, per gal.	.0938	.0947	.1032	.1072	.1139	.1308	.1317
124-126 wax, per lb.	.0364	.0394	.0294	.0471	.0516	.0446	.0254
150-160 D color bright stock	.3100	.2310					
PENNSYLVANIA—CRUDE OIL	1st 6 mos. 1929	1928	1927	1926	1925	1924	1923
Crude oil in National Transit Lines, per bbl.	$3.99	$2.98	$2.87	$3.51	$3.50	$3.60	$3.33
PENNSYLVANIA—REFINED PRODUCTS							
58-60 gravity, per gal.	.0941	.0982	.09	.1273	.1348	.1224	.1352
43 kerosene, per gal.	.0690	.0635	.0646	.0885	.0656	.0671	.0652
30-34 fuel oil, per gal.	.0545	.0449	.0477	.0591	.053	.0527	.054
Pennsylvania bright stock, per gal.	.4520	.3186	.3326	.3954	.3824	.3655	.3337
CALIFORNIA—CRUDE OIL	1st 6 mos. 1929	1928	1927	1926	1925	1924	1923
25 A.P.I. gravity, Long Beach, per bbl.	$1.05	$ .96	$1.00	$1.37	$1.35	$1.06	$ .74
CALIFORNIA—REFINED PRODUCTS							
58-60 U. S. Motor gasoline, per gal.	.0874	.0919	.0873	.1134			
75-85, 375-390 e.p., natural gasoline, per gal.	.0777	.0726	.093	.1465			
38-40 kerosene, per gal.	.0620	.0611	.07	.0745			
15-20 fuel oil at tidewater, per bbl.	.6900	.8692	.9221	.9813			

Average prices on refined products for 1925, 1924 and 1923 on comparable basis not available.

*Based on posted price for Oklahoma, Kansas and North Texas.

Note: Average price on refined products are based on low quotations as published weekly in The Oil and Gas Journal.

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fining centers. Prices reacted as soon as this buying was completed. The fact that kerosene yields from crude oil are decreasing is responsible for a limited supply which enables the sellers to maintain prices which for the past three years have been relatively high when compared with the crude oil prices and gasoline prices.

In the coastal areas where kerosene prices fluctuate less than they do in the interior the refiners went through the first half of 1929 with a high of 9 cents and a low of 8 cents at Bayonne, N. J. The Los Angeles export price was slightly higher than it was last year.

Distillates used for furnace oils were in strong demand the first quarter of 1929 and this fact is responsible for the high average price for the first half of the year. In Oklahoma a 38-40 straw distillate grade brought an average price of 3,63 cents per gallon with a high of 4⅜ cents in late February.

Fuel Oil and Gas Oil

Refiners who had hoped for an improvement in their fuel oil and gas oil market the first half of 1929 were disappointed. Prices were steady the first half of the year at coastal points with only minor changes at interior points. Prices are still far below the basic value of fuel oil and gas oil as charging stock for cracking units in the manufacture of gasoline. They are also below the value of these products when sold in competition with coal. The large increase in the production of low gravity crude oils in 1928 which carried over into 1929 has brought a surplus of all the heavier fuels with low prices which the industry has not yet been able to correct.

Paraffin Wax

Paraffin wax manufacturers had a bad half year. The production of wax increased and the export and domestic demand fell off so that large additions were made to stocks. The market began to weaken late in 1928 and prices slumped consistently throughout the first half of 1929.

KENTUCKY-TENNESSEE

(Continued from Page 82)

pool, James C. Ellis and others' No. 4 on the W. P. Howard farm developed a 12-bbl. initial pumper, the pay being found at 420-25 feet, total depth 440 feet.

Creek Drilling Co.'s No. 6 on the C. D. Westerfield, was dry at 991 feet, and in the Deanfield area. James C. Ellis and others' No. 2 on the M. J. Brown hears, same pool, was dry at 706 feet, while the National Deposit Bank Co.'s No. 8 on the M. J. Brown 50 acres, produced an initial of 80 bbls. In this well a string of 395 feet of casing was set, sand at 401-42 feet, total depth 445 feet. In the same area, John Breen and others' No. 3 E. E. Fuqua pumped 10 bbls. A string of 394 feet of casing was set, pay found at from 398-414 feet, total depth 420 feet. Chester Oil Co.'s No. 2 M. E. Medcalf, same field, set a string of 661 feet of casing, found pay sand at from 672-98 feet, and drilled to a total depth of 714 feet, and reported at 40 bbls. initial production.

In the Whittaker Pool, the Ohio Oil Co. set a string of 570 feet of casing, found pay sand at from 584-604 feet, and produced 80 bbls. initial in No. 7 on the W. B. Kelley farm. In the same pool, D. T. Bolling and others' No. 1 on the Westerfield heirs 54 acres, produced an initial of 30 bbls. In this well a string of 560 feet of casing was set, the pay sand found at from 570-71 feet, total depth 595 feet.

J. A. Ronshausen's second test on the Van Russelburg farm, 4 miles southeast of Whitesville, was dry at 585 feet. In the eastern part of the Ambrose-Weller Pool, the Cumberland Petroleum Co.'s No. 19 on the Bob Hamilton north 176 acres, is credited with an initial production of 30 bbls.

Daviess County

The best of the late completions in the Owensboro Field of Daviess County was the Cumberland Petroleum Co.'s No. 3 on the Salmon farm, in the Salmon Pool, with an initial reported production of 200 bbls., being the best yet found in that pool. Smith, Randolph and others' Nos. 7 and 8 on the Whitesville Bank land, near Whitesville, are rated good for 20 and 25 bbls. initial. Brown, Engle and Ballard's No. 1 on the Louis May lease, in the Red Hill area of the county, produced an initial of 25 bbls. Ira Huff and others' test on the Jess Litsey, in the Burton Pool, was a dry hole.

Barren County

In the Glasgow Field of Barren County work is picking up some after a long period, in fact very little work has been done for the first six months of the year. In the Haywood Pool, H. C. Smith Oil Co.'s No. 3 on the M. Ellis, is rated at 2 bbls. In the Coral Hill Pool, R. B.

THE OIL AND GAS JOURNAL'S TABLE FOR FIRST HALF OF 1929 GIVING LOW WEEKLY QUOTATIONS FIRST SIX MONTHS OF 1929 AND THE YEARS 192 AND

	January					February					March			
GASOLINE AND NAPHTHA—	1	8	15	22	29	5	12	19	26	5	12	19	26	
Oklahoma (Group 3):														
50-52 450 endpoint	.07½	.07½	.07½	.07¼	.06¾	.06½	.06½	.06½	.06½	.06½	.06½	.06	.06½	.06½
56-58 450 endpoint	.07½	.07½	.07½	.07½	.06¾	.06½	.06⅜	.06⅜	.06½	.06½	.06½	.06	.06½	.06½
58-60 437 endpoint (U. S. Motor)*	.0833	.0802	.08	.0796	.0775	.0702	.0709	.0707	.0677	.0702	.0701	.070	.0709	.0765
60-62 400 endpoint*	†.085	.085	.0883	.0843	.0825	.075	.0750	.0743	.0743	.0737	.0733	.073	.0825	.08
64-66 375 endpoint*	†.09¼	.0975	.0925	.0937	.0850	†.08	.0810	.0808	.0828	.0829	.0800	.077		
68-70 360 endpoint	.09¼	.09¼	.09	.09	.08½	.08½	.07¾	.07¾	.08	.08	.08¼	.08		
*Weighted average prices as reported by representative refiners. Sales to jobbers only. †No sales reported.														
North Texas:														
58-60 437 endpoint (U. S. Motor)	.07½	.07⅝	.07⅜	.07⅝	.07¼	.06⅝	.06½	.06½	.06½	.06½	.06⅝	.06		
64-66 375 endpoint	.08½	.08¼	.08¼	.08¼	.07¾	.07¾	.07⅝	.07⅝	.07⅜	.07⅜	.07½	.07	.06½	
64-66 390 endpoint	.08¼	.08	.08	.08	.07⅝	.07⅝	.07¼	.07½	.07⅜	.07⅜	.07½	.07	.07⅝	
North Louisiana:														
58-60 437 endpoint (U. S. Motor)	.08¼	.08	.08	.07¾	.07½	.07¼	.07¼	.07	.07	.07	.07¼	.07	.07¾	
Pennsylvania:														
52 Naphtha	.09¼	.09¼	.09¼	.09	.08½	.08½	.08½	.08¼	.08¼	.08¼	.08	.07⅝	.07¾	
58 Gasoline	.10	.10	.10	.10	.09⅝	.09½	.09¼	.09¼	.09	.09	.08½	.08⅜	.07⅝	
60 Gasoline	.10½	.10½	.10½	.10¼	.10¼	.10¼	.09⅝	.09⅝	.09⅜	.09⅜	.09	.08⅝	.08¼	
64 Gasoline	.12	.12	.11	.11	.10⅝	.10⅜	.10½	.10½	.10½	.10½	.10¼	.10	.09¾	
California:													.10¼	
58-60 437 endpoint (U. S. Motor), domestic	.10	.10	.10	.10	.09½	.09½	.09	.08	.07	.07	.06	.06		
Gulf Coast (Export):													.09	
58-60 437 endpoint (U. S. Motor)	.08¼	.08¼	.08½	.08½	.08½	.08½	.08½	.08½	.08½	.08½	.08½	.08		
60-62 400 endpoint	.09¼	.09¼	.09½	.09½	.09½	.09½	.09½	.09⅜	.09⅜	.09½	.09½	.09	.08¾	
61-63 390 endpoint	.09½	.09½	.09⅝	.09¾	.09¾	.09¾	.09¾	.09¾	.09¾	.09¾	.09¾	.09	.09¼	
64-66 375 endpoint	.09⅝	.09⅝	.10	.10	.10	.10	.10	.10	.10	.10	.10	.10	.09¾	
NATURAL GASOLINE—													.10	
Oklahoma (Group 3):														
Grade A, 72-79.9, 375 endpoint, rec. 90%	.08	.07¼	.06¾	.07¼	.07¾	.07¼	.07¾	.07¾	.07¾	.06⅞	.06¾	.07		
Grade AA, 80-87.9, 375 endpoint, rec. 90%	.06½	.05¾	.05½	.06¼	.06¾	.06½	.06¾	.07	.07⅛	.06⅞	.06¾	.07	.08	
Grade B, 76-83-9, 375 endpoint, rec. 85%	.06¼	.05⅝	.05¼	.05¾	.05⅝	.05½	.05½	.06¼	.06¼	.06	.06¾	.07	.08	
Grade BB, 84-92, 375 endpoint, rec. 85%	.06	.05½	.05¼	.05½	.05½	.05	.05¼	.06	.06¼	.05⅝	.05¾	.06	.08	
Grade C, 80-90, 375 endpoint, rec. 78%	.06	.05¼	.04⅞	.05⅛	.05¼	.04¾	.05¼	.05⅝	.05⅝	.05⅝	.05½	.06	.07	
North Texas:													.07	
Grade A, 72-79.9, 375 endpoint, rec. 90%	.08	.07¼	.06¾	.07¼	.07½	.07¼	.07⅜	.07⅜	.07⅜	.06⅞	.07	.07	.06¾	
Grade B, 76-83.9, 375 endpoint, rec. 85%	.06¼	.05⅝	.05¼	.05⅜	.05⅝	.05½	.05½	.06¼	.06¼	.05⅝	.05⅝	.06	.08	
Grade C, 80-90, 375 endpoint, rec. 78%	.06	.05¼	.05	.05½	.05¼	.04¾	.05¼	.05⅜	.05⅝	.05½	.05	.06	.06¾	
California:													.06⅝	
75-78, 375-390 endpoint	.07¼	.07¼	.08	.08	.08	.08	.07¾	.07¼	.06	.06	.06	.06	.09	
BURNING OILS—														
Oklahoma (Group 3):														
41-43 water white Kerosene	.05⅜	.05¼	.05¼	.05¼	.05	.05	.05¼	.05¼	.05½	.05½	.05⅞	.06		
42-44 water white Kerosene	.05⅞	.05⅝	.05⅝	.06	.05⅞	.05⅞	.05⅝	.05⅝	.06	.06	.06⅛	.06	.06½	
North Texas:													.06⅞	
41-43 water white Kerosene	.05¼	.05⅛	.05¼	.05⅜	.05¼	.05¼	.05¼	.05⅜	.05⅜	.05⅛	.05⅝	.05	.06¾	
Pennsylvania:														
43 Kerosene, prime white	.07	.07	.07	.07	.06¾	.06¾	.06¾	.06¾	.06¾	.07	.07	.07	.07	
45 Kerosene, water white	.07⅛	.07⅛	.07⅛	.07⅛	.07	.07	.07	.07	.07	.07	.07	.07	.07¼	
California:													.07	
38-40 water white Kerosene (high-burning test)	.06½	.06½	.06½	.06½	.06	.06	.06	.06	.06	.06	.06	.06	.07¼	
Engine Distillate, 43-44 445 endpoint	.07½	.07½	.07½	.07½	.07½	.07½	.07½	.06½	.06½	.06½	.06½	.06	.06¾	
Engine Distillate, 42-44 480 endpoint	.07	.07	.07	.07	.07	.07	.07	.06	.06	.06	.06	.06	.07½	
Gulf Coast (Export):													.07	
41-43 prime white	.06¾	.06¾	.06¾	.06¾	.06¾	.06¾	.06¾	.06¾	.06¾	.06¾	.06¾	.06		
41-43 water white	.07⅝	.07⅝	.07¾	.07¾	.07¾	.07¾	.07¾	.07¾	.07¾	.07¾	.07¾	.07	.07¾	
FUEL OILS—													.08¾	
Oklahoma (Group 3):														
Below 18 Fuel Oil, bbl.	.50	.50	.50	.50	.50	.50	.50	.50	.52½	.52½	.52½	.52½		
24-26 Fuel Oil, bbl.	.62½	.62½	.62½	.62½	.65	.65	.65	.65	.67½	.67½	.67½	.67½	.50	
32-36 Gas Oil (dark)	.02⅝	.02⅝	.02⅝	.02⅝	.02⅝	.02¾	.02¾	.02¾	.02⅞	.02⅞	.03	.03	.67½	
38-40 Straw Distillate	.03½	.03½	.03½	.03½	.03¾	.03¾	.03¾	.04	.04¾	.04¼	.04½	.04	.03	
North Texas:													.04	
24-26 Fuel Oil, per bbl.	.52½	.52½	.52½	.55	.60	.62½	.62½	.65	.65	.70	.70	.70		
32-36 Gas Oil (straw)	.02½	.02½	.02½	.02⅝	.02⅝	.02¾	.02¾	.02¾	.03	.03⅛	.03⅛	.03⅛	.70	
38-40 Straw Distillate	.03⅜	.03⅜	.03⅜	.03½	.03⅝	.03⅜	.03⅝	.03⅜	.04¼	.04¼	.04⅛	.04	.03⅛	
North Louisiana:													.04	
18-20 Fuel Oil, per bbl.	.75	.75	.75	.75	.75	.75	.70	.70	.70	.70	.70	.70		
Gulf Coast:													.70	
Bunker "C" Fuel (cargo lots), per bbl.	.80	.80	.80	.80	.80	.80	.65	.65	.72½	.72½	.72½	.72½		
Gas Oil	.04¼	.04¼	.04¼	.04¼	.04¼	.04¼	.04	.04	.03½	.03½	.03½	.03½	.72½	
Pennsylvania:													.03½	
30-34 Fuel Oil	.04⅝	.04⅝	.04⅝	.04⅝	.04½	.04½	.04½	.04⅝	.04½	.04½	.04½	.04¼		
36-40 Fuel Oil	.04¾	.04¾	.04⅝	.04⅝	.04⅝	.04⅝	.04⅝	.04⅝	.04¾	.04¾	.04⅝	.05	.04½	
California:													.05	
26-32 Distillate	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03		
15-20 Fuel Oil (tidewater), Bunker*	.85	.85	.75	.75	.75	.75	.70	.70	.70	.70	.65	.65	.03	
27 plus Diesel, per bbl.	1.15	1.15	.95	.95	.95	.95	.95	.95	.95	.90	.90	.90	.65	
LUBRICATING OIL AND WAX—													.90	
Oklahoma (Group 3):														
100 vis., 3 color, 20-25 cold test	.06	.06	.06	.05½	.05½	.05¼	.05¼	.05¼	.05½	.05¼	.05¼	.05		
180 vis., 3 color, 23-28 cold test	.09¼	.09¼	.09¼	.08¾	.08¾	.08¾	.08¾	.08¾	.08¾	.08¾	.08¾	.08	.05¼	
200 vis., 3 color, 23-28 cold test	.09¼	.09¼	.09¼	.09¼	.09¼	.09¼	.09¼	.09¼	.09¼	.09¼	.09¼	.09	.08¾	
180 vis., 5 color, 23-28 cold test	.09	.09	.09	.08¼	.08¼	.08¼	.08¼	.08¼	.08¼	.08¼	.08¼	.08	.09¼	
200 vis., 5 color, 23-28 cold test	.09	.09	.09	.08¾	.08½	.08½	.08½	.08½	.08½	.08½	.08½	.08	.08¼	
240 vis., 5 color, 25-30 cold test	.12	.12	.12	.10¾	.10¾	.10¾	.10¾	.10¾	.10¾	.10¾	.10¾	.10	.08½	
150-160 vis. D color Bright Stock	.28	.28	.28	.28	.29	.30	.30	.30	.30	.30	.30	.30	.10¾	
600 steam refined, light green	.08	.09	.09	.09	.09	.09	.09	.09	.09	.09	.09	.09	.30	
124-126 White Crude Scale Wax, lb.	.04¾	.05	.05	.04¾	.04¾	.04½	.03⅞	.03⅞	.03⅞	.03¾	.03¾	.03¾	.09	
Pennsylvania:													.03¾	
600 Pennsylvania flash	.31½	.31½	.31½	.31½	.31½	.31½	.31½	.31½	.31½	.31½	.31½	.31½		
Pennsylvania Bright Stock	.39	.39	.39	.39	.39	.39	.39	.39	.39	.39	.39	.39	.32½	
Gulf Coast:													.42½	
200 vis., 3 color, pale	.08½	.08½	.08½	.08½	.08½	.09	.09	.09	.09	.09	.09	.09		
200 vis., 5-6 color, red	.08¼	.08¾	.08¼	.08¼	.08¼	.08¼	.08¼	.07½	.07½	.07½	.07½	.07½	.09	
California:													.07½	
200 vis., 2½-3 color	.11½	.11½	.11½	.11½	.11½	.11½	.11½	.11½	.11½	.11½	.11½	.11½		
200 vis., 4½-5 color, red	.11¼	.11¼	.11¼	.11¼	.11	.11	.11	.11	.11	.11	.11	.11	.11½	
NEW YORK (BAYONNE) REFINERY PRICES—													.11	
58-60 437 U. S. Motor Gasoline	.10½	.10¼	.10⅛	.10¼	.10¼	.10¼	.10	.10	.09½	.09½	.09¼	.09		
41-43 water white Kerosene	.09	.09	.09	.09	.09	.08½	.08½	.08½	.08½	.08½	.08½	.08¼	.08¾	
Gas Oil, 32-36 gravity	.05¼	.05¼	.05¼	.05¼	.05¼	.05¼	.05¼	.05¼	.05¼	.05¼	.05¼	.05¼	.08	
Diesel Fuel Oil, 28-30, bbl.†	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	.05	
Bunker "C" Fuel Oil, 14-16, b l.*	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	2.00	
28 pale Paraffin Oil	.07½	.07½	.07½	.07½	.07½	.07½	.07½	.07½	.07½	.07½	.07½	.07½	1.05	
250 red Paraffin Oil	.11	.11	.11	.11	.11	.11	.11	.11	.11	.11	.11	.11	.07½	
120-122 a.m.p. Wax, lb.	.05⅝	.05⅝	.05⅝	.05½	.05⅜	.05⅜	.05⅛	.05¼	.05¼	.05¼	.05¼	.04¾	.11	
Amber Petrolatum	.03½	.03½	.03½	.03½	.03½	.03½	.03½	.03½	.03½	.03½	.03½	.03½	.04¾	
*Lighterage, 5 cents a barrel extra. †Lighterage, 6.5 cents a barrel extra.													.03½	
NEW YORK (BAYONNE) EXPORT MARKET—														
600 steam refined, Cylinder Stocks, bbl.	.30	.33	.31	.31	.31	.30½	.30½	.30½	.30½	.30	.30	.31		
Light 140-150 Bright Stock	.46	.49	.49	.47	.47	.46	.46	.46	.46	.46½	.46½	.48	.31½	
Dark 140-150 Bright Stock	.44	.48	.48	.46	.46	.45	.45	.45	.45	.45	.45	.47	.50	
LOS ANGELES EXPORT PRICES—													.48½	
Kerosene, water white	.05½	.05½	.05½	.05½	.05½	.05½	.05½	.05½	.05½	.05½	.05½	.05½		
Gasoline, 53-55 437 endpoint	.08	.08	.07½	.07½	.07½	.07½	.07½	.07¼	.07	.07	.07	.07	.05½	
													.07	

ONS ON REPRESENTATIVE REFINED PRODUCTS FOR EXPORT AND DOMESTIC MOVEMENT. INCLUDES AVERAGE PRICES FOR AND 1927. PRICES GIVEN IN CENTS PER GALLON UNLESS OTHERWISE NOTED.

March — 26	April 2	April 9	April 16	April 23	April 30	May 7	May 14	May 21	May 28	June 4	June 11	June 18	June 25	First 6 mos. 1929 Av. price	1929 High	1929 Low	1928 Av. pr for yr.	1928 High	1928 Low	1928 Av. pr ce 1st 6 mo.	1928 Av. pr ce 2nd 6 mo.	1927 Av. pr for yr.	1927 High	1927 Low	1927 Av. pr ce 1st 6 mo.	1927 Av. pr ce 2nd 6 mo.
.06¼	.06½	.06¾	.07	.07	.07⅛	.07¼	.07¼	.07⅜	.08⅜	.08⅛	.08⅜	.08⅜	.08¼	.0725	.08⅜	.06½	.0738	.09¼	.05½	.0618	.0858	.0655	.09	.0562	.0709	.0601
.06⅛	.06⅜	.07	.07	.07⅛	.07¼	.07¼	.07¼	.07⅝	.08⅜	.08⅛	.08⅜	.08¾	.08¼	.0726	.08⅜	.06⅛	.0741	.09¼	.05½	.0622	.0859	.0649	.0875	.0562	.0699	.0599
.0709	.0721	.0738	.0741	.0752	.0756	.0763	.0776	.0788	.0911	.0925	.0924	.0925	.0925	.0779	.0925	.0677	.0795	.0971	.0575	.0644	.0927	.0667	.09	.0575	.0722	.0613
.0765	.0732	.0741	.0786	.0787	.0812	.0812	.0800	.0825	.0850	.0969	.0950	.0950	.0950	.0818	.0969	.0732	.0833	.1035	.0634	.0701	.0969	.0721	.10	.0625	.0781	.0661
.0825	.08125	.0825	.0841	.085	.085	.0862	.0865	.0855	.6975	.0975	.0983	.0975 †	.09½	.0872	.0983	.075	.0883	.1100	.0634	.0733	.1039	.0757	.1062	.065	.0826	.0688
.08	.08¼	.08¼	.08¼	.08¼	.08¼	.08¼	.08¼	.08½	.09½	.09⅛	.09¾	.09¾	.09¼	.0859	.0975	.0775	.0885	.1125	.07	.0746	.1024	.0799	.1125	.0675	.0881	.0717
.06¾																										
.07																										
.07⅛	.06½	.06⅝	.06¾	.07¼	.07⅜	.07⅝	.07¼	.07⅝	.07½	.08⅞	.08¾	.08¾	.08¼	.0730	.08875	.065	.0769	.09¾	.05⅝	.0651	.0888	.0604	.09	.0575	.0720	.0588
.07⅜	.07¾	.07⅜	.07⅜	.07⅞	.07⅜	.08	.08	.08⅛	.09¼	.09½	.09½	.09½	.08¾	.0816	.095	.0725	.0849	.10⅝	.06¾	.0722	.0976	.....	.....	.....	.....	.....
.07⅝	.07½	.07⅝	.07⅝	.07⅝	.07⅜	.07⅜	.07⅝	.07⅞	.09	.09¼	.09⅛	.09⅛	.08⅝	.0790	.0925	.0726	.0827	.10¼	.06½	.0704	.0951	.0737	.1037	.0626	.0804	.0670
.07¼	.07½	.07½	.07⅝	.07⅜	.07⅜	.08	.08¼	.09⅛	.09½	.09⅝	.09⅝	.09⅝	.09¾	.0797	.0975	.07	.0825	.10⅜	.06	.0700	.0949	.0698	.09	.0625	.0739	.0657
.07⅜	.07⅜	.08¼	.08⅛	.08¼	.08¼	.08⅜	.08⅜	.08½	.08½	.08⅛	.08½	.08½	.09	.0847	.0925	.0775	.0934	.11¼	.07½	.0825	.1042	.0875	.115	.0737	.0968	.0782
.08⅛	.08½	.08⅜	.09	.09¼	.09¼	.09½	.09⅜	.09⅝	.10	.10	.10	.10	.10	.0941	.10	.085	.0982	.12	.07⅜	.0864	.1101	.0900	.115	.0775	.0986	.0814
.08⅜	.09¼	.09¼	.09¼	.09½	.09½	.09½	.09⅜	.09⅝	.10¼	.10¼	.10¼	.10¼	.10¼	.0980	.105	.0875	.1038	.12⅜	.08	.0906	.1171	.0974	.135	.0825	.1063	.0885
.10⅜	.10¼	.10¼	.10¼	.10¼	.10¼	.10½	.10½	.10¼	.10⅝	.10½	.10⅜	.10⅜	.10⅜	.1062	.12	.1025	.1138	.13½	.09	.0972	.1303	.1051	.1325	.0925	.1147	.0954
.06	.09	.09	.09	.09	.09	.09	.09	.09	.09	.09	.09	.09	.09	.0877	.10	.06	.0919	.10½	.07	.0874	.0964	.0873	.105	.08	.0863	.0883
.08¼	.08½	.08½	.08½	.08½	.08½	.08½	.08½	.08½	.08½	.08½	.08½	.08½	.08½	.0848	.085	.0825	.....	.....	.....	.....	.....	...	...	.....	.....	.....
.09¼	.09½	.09½	.09½	.09½	.09½	.09½	.09½	.09½	.09½	.09½	.09½	.09½	.09½	.0948	.095	.0925	.....	.....	.....	.....	.....	...	...	.....	.....	.....
.09¾	.09¾	.09¾	.09¾	.09¾	.09¾	.09¾	.09¾	.09¾	.09¾	.09¾	.09¾	.09¾	.09¾	.0973	.0975	.095	.....	.....	.....	.....	.....	...	...	.....	.....	.....
.10	.10	.10	.10	.10	.10	.10	.10	.10	.10	.10	.10	.10	.10	.0998	.10	.0975	.....	.....	.....	.....	.....	...	...	.....	.....	.....
.07¼	.08	.08	.08	.08	.07¾	.07¾	.07¾	.07¼	.06¾	.07⅝	.07½	.07½	.07⅝	.07¼	.0755	.08	.0675	.0744	.10⅝	.04½	.0549	.0939	.0585	.095	.045	.0612	.0558
.07⅛	.08	.08	.08	.08	.07⅜	.07⅜	.07⅜	.07¼	.06⅜	.07⅝	.07½	.07½	.07½	.07¼	.0716	.055	.08	.0734	.10⅜	.04½	.0541	.0927	.0575	.095	.045	.06	.0549
.06⅝	.07	.07	.07¼	.07⅜	.07⅝	.07⅛	.06⅜	.06¼	.07½	.07¼	.07⅛	.07⅛	.06½	.0656	.0775	.0525	.0691	.10⅜	.03⅝	.0474	.0908	.0544	.085	.0412	.0576	.0512
.06¼	.07	.07	.07¼	.07⅜	.07⅝	.07½	.07⅛	.06⅜	.06¼	.07½	.07¼	.07⅛	.06½	.0645	.0775	.05	.0685	.10⅜	.03½	.0469	.0900	.0543	.085	.04	.0575	.0510
.06¼	.06⅜	.07	.07½	.07½	.07¼	.07	.06⅜	.06	.07¼	.07	.07	.07	.06½	.0623	.0725	.0475	.0666	.10⅜	.03¼	.0441	.0892	.0525	.0825	.035	.0562	.0489
.07⅛	.08	.08	.08	.08	.07⅜	.07⅝	.07¼	.06⅜	.07⅝	.07½	.07¼	.07¼	.07⅝	.0748	.08	.0675	.0742	.10⅜	.04¼	.0549	.0934	.0585	.0962	.045	.0612	.0558
.06¼	.06⅜	.07	.07¼	.07⅝	.07⅝	.07½	.07¼	.06⅜	.06¼	.07⅛	.07¼	.07¼	.06½	.0656	.0775	.0525	.0691	.10⅜	.03⅝	.0475	.0906	.0542	.085	.0412	.0575	.0508
.06¼	.06⅜	.07	.07½	.07½	.07¼	.07	.06⅜	.06	.07¼	.07	.07	.07	.06½	.0624	.075	.0475	.0664	.10⅜	.03½	.0443	.0885	.0519	.0837	.035	.055	.0487
.06	.09	.09	.09	.08	.08	.08	.08	.08	.08	.08	.08½	.08½	.08½	.0777	.09	.06	.0726	.08½	.05⅛	.0780	.0672	.0903	.125	.07	.1023	.0838
.06¼	.06½	.06⅝	.06⅝	.06½	.06½	.06	.05⅝	.05½	.05½	.05⅜	.05⅝	.05⅝	.05⅝	.0549	.0675	.05	.0517	.06½	.04¼	.0460	.0574	.0461	.0612	.04	.0496	.0426
.06⅞	.06⅞	.07⅛	.07	.06⅝	.06½	.06⅛	.05⅞	.06	.06	.06⅜	.06¼	.06¼	.06⅛	.0617	.06875	.0575	.0556	.06⅝	.04⅝	.0503	.0608	.0503	.0675	.0437	.0541	.0465
.05⅞	.06⅝	.07¼	.07¼	.06⅜	.06¼	.06	.05½	.05	.05¼	.05½	.05⅝	.05½	.05½	.0568	.0725	.05	.0503	.06⅜	.04¼	.0456	.0550	.0453	.0612	.0362	.0486	.0419
.07	.07	.07	.07	.07¼	.07¼	.07	.07	.07	.06¾	.06¾	.06¾	.06¾	.06⅜	.0690	.0725	.065	.0635	.07½	.05¾	.0582	.0688	.0646	.0825	.055	.0692	.0600
.07⅛	.07⅛	.07¼	.07¼	.07¼	.07⅛	.07⅛	.07	.07	.06¾	.06¾	.06¾	.06¾	.06¾	.0703	.0725	.065	.0663	.07⅝	.06	.0625	.0701	.0666	.085	.0575	.0712	.0619
.06⅜	.06⅛	.06½	.06⅜	.06⅜	.06⅛	.06⅜	.06½	.06	.05⅝	.05⅜	.05⅝	.05⅝	.05⅝	.0620	.065	.0575	.0611	.06⅜	.05⅛	.0561	.0660	.0583	.07	.05	.0634	.0531
.06⅜	.07⅛	.07⅛	.07⅛	.07⅛	.07⅛	.07⅛	.07⅝	.08	.08	.08	.08	.08	.08	.0743	.08	.065	.0710	.08	.06⅛	.0707	.0712	.0677	.08	.0425	.0697	.0756
.06	.07	.07	.07	.07	.07	.07	.07	.07	.07½	.07½	.07½	.07½	.07½	.0693	.075	.06	.0669	.07⅛	.06¼	.0662	.0675	.0693	.0775	.04	.0655	.0730
.06¾	.07⅜	.07⅜	.07⅜	.07⅜	.07⅜	.07⅜	.07⅜	.07⅜	.07⅜	.07⅜	.07⅜	.07⅜	.07⅜	.0728	.0775	.06625	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.07⅛	.08⅜	.08⅜	.08⅜	.08⅜	.08⅜	.08⅜	.08⅜	.08⅜	.08⅜	.08⅜	.08⅜	.08⅜	.08⅜	.0828	.0875	.07625	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.52½	.50	.50	.50	.50	.50	.47½	.47½	.47½	.50	.50	.50	.50	.45	.499	.525	.45	.6298	.80	.50	.7202	.5394	.8889	1.225	.70	1.0182	.7596
.67½	.67½	.65	.65	.65	.62½	.62½	.60	.60	.65	.65	.65	.65	.65	.646	.675	.60	.7694	.85	.55	.8010	.6144	.9792	1.275	.80	1.0990	.8394
.03	.02⅞	.02⅝	.02½	.02½	.02⅜	.02¼	.02⅜	.02⅜	.02⅝	.02⅝	.02⅝	.02⅝	.02⅝	.0262	.03	.0225	.0247	.02⅝	.02⅜	.0248	.0245	.0299	.045	.0237	.0341	.0257
.04	.04	.03⅞	.03⅞	.03⅞	.03½	.03½	.03⅜	.03¼	.03¼	.03¼	.03¼	.03¼	.03¼	.0363	.04375	.0325	.0313	.03⅜	.03	.0306	.0320	.0353	.0525	.03	.0391	.0315
.70	.70	.72½	.72½	.70	.65	.65	.65	.60	.65	.65	.65	.65	.65	.641	.725	.525	.0634	.75	.52½	.723	.545	.9981	1.55	.75	1.1902	.8010
.03¼	.03¼	.03	.03	.02⅜	.02⅝	.02⅜	.02¼	.02¼	.02⅜	.02⅝	.02⅝	.02⅝	.02⅜	.0266	.03125	.0225	.0231	.02½	.02¼	.0235	.0226	.0284	.0437	.0225	.0333	.0234
.04	.04	.03⅞	.03⅞	.03⅞	.03½	.03¼	.03¼	.03⅜	.03¼	.03¼	.03¼	.03¼	.03¼	.0359	.0425	.03125	.0296	.03	.02⅞	.0298	.0294	.0338	.05	.0287	.0375	.0300
.70	.70	.70	.70	.70	.70	.70	.70	.75	.75	.75	.75	.70	.70	.70	.72	.75	.70	.8394	1.00	.70	.9083	.7702	1.1226	1.30	.90	1.1798	1.0653
.72½	.72½	.72½	.72½	.72½	.75	.75	.75	.75	.75	.80	.80	.80	.80	.80	.756	.80	.65	1.018	1.25	.75	1.1884	.8481	1.5510	1.75	1.25	1.6115	1.4904
.03½	.03⅜	.03½	.03½	.03½	.03½	.03½	.03½	.03½	.03½	.03¾	.04	.04	.04	.0378	.0425	.035	.0416	.04¼	.03⅜	.0421	.0411	.0448	.055	.0387	.1487	.0408
.04½	.04½	.04	.04⅜	.04⅜	.04⅜	.04⅜	.04⅜	.04⅜	.04⅜	.04⅛	.04½	.04½	.04½	.0454	.0475	.04	.0449	.04⅜	.04¼	.0471	.0427	.0477	.0612	.0375	.0547	.0407
.05	.05	.05	.05¼	.05¼	.05¼	.05¼	.05¼	.05¼	.05	.04⅞	.04⅞	.04⅝	.04⅝	.0489	.0525	.04625	.0472	.05	.04¼	.0491	.0452	.0500	.065	.04	.0566	.0433
.03	.03	.03	.03	.03⅛	.03⅛	.03⅛	.03⅛	.03⅛	.03⅛	.03⅛	.03⅛	.03½	.03½	.032	.035	.03	.0269	.03	.02¼	.0248	.0290	.0319	.035	.0225	.0338	.0299
.65	.65	.65	.65	.65	.65	.65	.65	.65	.65	.65	.65	.65	.65	.69	.85	.65	.8692	1.00	.85	.0884	.85	.9221	.925	.85	.8961	.948
.90	.90	.90	.90	.90	.90	.90	.90	.90	.90	.90	.90	.90	.90	.93	1.15	.90	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15
.05⅝	.05¼	.05¼	.05¼	.05¼	.05½	.05½	.05⅝	.05⅝	.05⅝	.05⅜	.05⅝	.05⅝	.05⅝	.0547	.06	.0525	.06	.06	.06	.06	.06	.0625	.0675	.06	.0642	.0608
.08⅝	.08⅝	.08⅝	.08⅝	.08⅝	.08⅝	.08⅝	.09¼	.09¼	.09¼	.09¼	.09¼	.09¼	.09¼	.0894	.0925	.0875	.0945	.09⅜	.09¼	.0937	.0954	.0981	.10	.0937	.0988	.0973
.09¼	.09¼	.09¼	.09¼	.09¼	.09¼	.09¼	.09¾	.09¾	.09¾	.09¾	.09¾	.09⅝	.09⅝	.0938	.0975	.0925	.0947	.09⅝	.09¼	.095	.0944	.1032	.1075	.095	.1061	.1002
.08⅝	.08¼	.08¼	.08¼	.08¼	.08¼	.08¼	.08⅝	.08⅝	.08⅝	.08⅝	.08⅝	.08⅝	.08⅝	.0840	.09	.0825	.0911	.09¼	.09	.0912	.0910	.0945	.0975	.0912	.0960	.0929
.08⅝	.08¼	.08¼	.08¼	.08¼	.08¼	.08¼	.08½	.08½	.08½	.08⅛	.08⅝	.08⅝	.08⅝	.0863	.09	.085	.0922	.09¼	.09	.0925	.0919	.1016	.105	.0925	.1025	.1006
.08⅝	.08⅜	.08⅜	.08⅜	.08⅜	.08⅜	.08⅜	.08⅜	.08⅜	.08⅜	.08⅜	.08⅜	.08⅜	.08⅜	.1116	.12	.1075	.1222	.12¼	.12	.1225	.1219	.1251	.13	.1225	.1268	.1233
.10⅝	.10⅜	.10⅜	.10⅜	.10⅜	.10⅜	.10⅜	.11⅜	.11⅜	.11⅜	.11⅜	.11⅜	.11⅜	.11⅜	.31	.36	.28	.1235	.25	.22	.2242	.2473	.....	.....	.....	.....	.....
.30	.30	.30	.30	.31	.31	.32	.34	.34	.35	.35	.35	.35	.35	.1042	.145	.08	.08	.08	.08	.08	.08	.0764	.08	.07	.08	.0727
.09	.09	.09	.09	.09	.11	.11	.13	.13	.14½	.14½	.14	.14	.14	.0364	.05	.026	.0394	.05	.02½	.0321	.0468	.0294	.0425	.025	.0534	.0254
.03⅝	.03⅝	.03⅝	.03⅝	.03⅝	.03⅛	.03¼	.03	.03	.03	.02½	.02½	.02½	.02½													
.31½	.32½	.32	.32	.35½	.39	.41½	.41½	.41⅜	.41⅜	.41⅛	.41½	.38½	.38½	.41	.415	.315	.1789	.29½	.14	.1546	.2031	.1752	.2075	.15	.1873	.1631
.39	.42½	.45	.47	.47	.50	.53	.57	.57	.52	.52	.52	.51	.51	.452	.57	.39	.3186	.36	.26½	.2846	.3523	.3326	.37	.28	.3502	.3149
.09	.09	.09	.09	.09	.09	.09	.09	.09	.09	.09	.09	.09½	.09½	.089	.095	.085	.0906	.10	.07½	.0914	.0898	.1002	.11	.85	.1071	.0932
.07½	.07½	.07½	.07½	.07½	.07½	.07½	.07½	.07½	.07½	.07½	.07½	.08½	.08½	.0778	.085	.075	.0800	.08½	.07½	.0771	.0830	.0821	.09	.0725	.0571	.0771
.11½	.11½	.11½	.11½	.11½	.11½	.11½	.11½	.11½	.11½	.11½	.11½	.11½	.11½	.115	.115	.115	.1057	.11½	.10	.1114	.1058	.11	.10	.1081	.1035
.11	.11	.11	.11	.11	.11	.11	.11	.11	.11	.11	.11	.11	.11	.11	.1125	.11	.0954	.11½	.08½	.085	.1058	.0969	.095	.085	.0933	.0885
.09	.08⅝	.08⅜	.08⅜	.09	.09	.09	.09	.09	.09	.10	.10	.10	.10	.096	.105	.0875	.1020	.11⅜	.08¼	.0918	.1125	.0941	.13	.08	.1050	.0832
.08¼	.08	.08	.08	.08	.08	.08	.08	.08	.08	.08	.08	.08	.08	.0832	.09	.08	.0803	.09	.07½	.0754	.0852	.0768	.105	.065	.0822	.0713
.05½	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.0512	.0525	.05	.0530	.05½	.05½	.0534	.0525	.0573	.0625	.055	.0596	.055
2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.013	2.10	2.00	2.0268	2.00	2.2269	2.40	2.00	2.3462	2.1077
1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.188	1.35	1.05	1.3192	1.057	1.6366	1.75	1.35	1.7308	1.5423
.07½	.07¼	.07¼	.07¼	.07¼	.07¼	.07¼	.07¼	.07¼	.07¼	.07¼	.07¼	.07¼	.07¼	.0736	.076	.0725	.0708	.07½	.07	.07	.0715	.0743	.08	.07	.0763	.0722
.11	.11	.11	.11	.11	.11	.11	.11	.11	.11	.11	.11	.11	.11	.11	.11	.11	.1058	.11	.10½	.105	.1065	.1154	.125	.105	.1203	.1104
.04½	.04⅜	.04⅝	.04½	.04⅝	.04¼	.04¼	.04¼	.03⅝	.03⅞	.03⅝	.03⅝	.03⅝	.03⅝	.0468	.05625	.03375	.0466	.05⅜	.03⅞	.0401	.0530	.0429	.0562	.0387	.0467	.0391
.03⅝	.03½	.03½	.03½	.03½	.03½	.03½	.03½	.03½	.03⅝	.03⅛	.03½	.03½	.03½	.035	.035	.035	.0339	.03½	.03¼	.0333	.0346	.0334	.0337	.0325	.0324	.0333
.31																										
.48	.31½	.32	.33	.33	.37	.40	.40	.40	.43	.43	.42	.42	.42	.3502	.43	.30	.1946	.270	.1650	.1717	.2179	.1798	.20	.165	.1908	.1687
.47	.50	.50	.56	.56	.59	.60	.60	.63	.63	.63	.63	.61	.61	.534	.63	.46	.4137	.4450	.3600	.3934	.4338	.4289	.46	.40	.4423	.4154
.05⅜	.48½	.49	.54	.54	.57	.58	.58	.61	.61	.61	.61	.60	.60	.52	.61	.45	.3942	.3400	.425	.373	.4156	.4083	.44	.38	.4223	.3942
.07	.07	.07	.07	.07	.07	.07	.07	.07	.07	.07	.07	.07	.07	.0718	.08	.07	.0746	.085	.06	.0666	.0826	.0672	.0875	.0575	.0735	.0608

Tyler brought in a heavy gas producer on the A. E. Mayfield lease, at 518 feet. In the same pool, Davis and Norris got a dry hole on the Duff lease.

In the extension to the Lecta Pool, southeast of Glasgow, Norris and Samson drilled a dry hole on the Widow Ellis farm, at 575 feet, in the Blue sand. In the Rocky Hill Pool, Kidd and Richardson struck a duster on an unknown lease.

In the Hall-Baker Pool, the Consolidated Oil Co.'s test on the Mansfield farm pumped 3 bbls. initial, and J. W. Porter's second test on the Mayfield heirs, was also a 3-bbl. pumper. J. W. Porter is drilling No. 1 on the George Mayfield, same pool. Gordon Oil Co. is drilling No. 1 on the Dewesse. J. H. Mann and others are drilling No. 1 on the Bettie Reed, in the Lecta Field extension.

Scattered Completions

Near Victoria, in Hancock County,

(Continued on Page 276)

Demand in East Showed Improvement

Marked Degree of Stabilization Attained in Refined Market Despite the Overproduction Situation in Crude

By A. E. Mockler
New York Bureau, The Oil and Gas Journal

NEW YORK, July 23.—Markets for principal refined products showed a marked degree of stabilization during the first six months of 1929, and the half year, on the whole, was a most profitable one for refiners and marketers in this area. This showing is all the more remarkable in view of the general overproduction of crude petroleum during this period, and the resultant unsettled feeling in other branches of the oil industry. Demand for the principal refined products showed considerable improvement in the half year over that for the corresponding period of 1928, with the exception of paraffin wax, which went into somewhat of a slump.

Cylinder oils again furnished the pyrotechnics in the way of price movements, showing a sustained upward movement over the first five months, which carried prices to the highest levels attained since the war boom. However, the strong position of the gasoline market, in view of the heavy oversupply of crude, was by far the most significant feature of the market.

Refiners have not yet footed up their totals on gasoline gallonage for the first six months, in most cases, but preliminary reports indicate that most of the principal interests here not only did a larger business in the first half of 1929 than in the comparable period of last year, but that the volume for the first half of the current year established new high records for all time. This record showing was accomplished in the face of a backward and rainy spring season, which considerably retarded the development of motoring.

An outstanding development in the East Coast situation has been the complication of the competitive situation through the entrance of new factors into the area and a general policy of expansion on the part of interests previously prominent in the Atlantic Coast territory.

New Companies in Market

Of perhaps leading importance in this connection was the organization early in the year of the Shell Eastern Petroleum Products, Inc., as a marketing subsidiary of the Royal Dutch-Shell. This new eastern agency was built around the New England Oil Refining Co., which Shell purchased outright, and has been materially extended since by the acquisition of numerous independent bulk and retail filling stations at many points in the East. Shell is active not only in the New England area, where it is a direct competitor of Standard Oil Co. of New York, Standard Oil Co. of New Jersey, and Atlantic Refining, but is also operating along the entire Atlantic seaboard, as part of the Shell movement to attain the status of a national factor in the petroleum industry. Because of the immensity of the Shell organization, its entrance into the East is causing other interests here considerable concern.

Marland Oil (now Continental Oil Co.) also entered the eastern picture during the first six months of 1929 with the acquisition of a 10,000-bbl. refinery at Baltimore, along with bulk distributing and retail stations in the Middle Atlantic area.

Richfield Oil Co. of California, with the formation of Richfield Oil Corp. of New York as a marketing subsidiary, has also developed as a strong factor in New York, New England, Pennsylvania and New Jersey.

Standard Oil Co. of New Jersey has developed further as a large marketer in the east, first through the acquisition of Beacon Oil Co., with headquarters in Boston, and secondly through the expansion of its Pennsylvania subsidiary, Standard Oil Co. of Pennsylvania. The purchase by New Jersey of control of Beacon Oil Co. places the New Jersey company squarely as a competitor in New England of Standard Oil Co. of New York, reputedly one of its largest customers for motor gasoline, while the development of Standard Oil Co. of Pennsylvania further strengthens the opposition which the New Jersey company is furnishing Atlantic Refining Co. in the latter's home territory. There are rumors afloat that the New Jersey company, through Beacon Oil Co., will acquire a large Pennsylvania refining and marketing company, but nothing definite has developed in that direction as yet. The importance which Standard Oil Co. of New Jersey attaches to its Pennsylvania operations is shown by the fact that at the start of the current month, the capitalization of Standard Oil Co. of Pennsylvania was increased from $1,000,000 to $10,000,000, to provide working capital for future expansion.

Venezuelan Refinery

Pan American Petroleum & Transport Co., already established in the East, is expected to assume a more important place in gasoline marketing during the closing half of 1929. This company is just completing a 110,000-bbl. refinery at Aruba, D. W. I., to handle its Venezuelan crude production, and by the start of the closing quarter of the year will have large quantities of gasoline to market along the Atlantic seaboard.

Bunker "C" and Diesel oils were both in rather steady position during the first half of the year. Paraffin wax slumped off, both in price and volume, while petrolatum and red and pale lub oils about held their own, showing little change for the period. Gas oil was also holding up fairly well, while kerosene showed a marked degree of stability during the period under review.

East Coast refiners, in general, have been operating along conservative lines during the first six months. A general tendency to hold down production of refined products to avoid the accumulation of burdensome surplus stocks has been shown, and in addition, there has been a marked trend toward the greater utilization and development of cracking facilities as a means of curtailing the production of fuel oil as much as possible. Considerable attention has also been paid to refinements and improvements in refining technique, with the resultant improvement in the quality of product, as well as a higher yield of the more desirable products, such as gasoline and kerosene.

Gasoline

East Coast refiners, on the average, have shown a gain of approximately 15 per cent in gasoline gallonage during the first six months, this taking into account both domestic and export sales. Eliminating the export totals, it is probable the gain in domestic sales has averaged close to 20 per cent in the East Coast territory as a whole, and indications point to a continuance of this rate of business over the balance of the year. The heavy deliveries of the new model Ford car have been an important factor in increasing gasoline gallonage in the East, deliveries of these cars being instrumental in greatly stimulating retail gasoline markets.

Tank car gasoline prices, in general, have been satisfactory thus far in 1929. The market started off at 10½ cents per gallon, which was 2¼ cents over the quotation in effect at the start of the preceding year. Refiners were unable to maintain this high level, however, and by the beginning of the second quarter of 1929 the price had slumped to 8¾ cents, recovering from that point to 11 cents as of July 1, the high point of the year thus far. Price movements in the tank car markets have been fairly orderly this year, so far, the market at no time being out of the hands of the leading interests. At times, small independents have been quoting as much as 1 cent per gallon under the general market basis, but the larger interests have found it unnecessary to meet this competition, and the market has always firmed up to the levels quoted by the principal refiners and marketers.

An interesting development in gasoline marketing this year has been that the dominant factors in the East have been quick to readjust their tank car prices downward in line with similar moves in competing refining territories, but slow to advance prices in the East after quotations in other refining areas have gone up. This has been instrumental in holding down shipments of gasoline from other sections of the country to a minimum, with the exception of California. In the latter case, however, these shipments are largely for the account of leading eastern interests with producing and refining subsidiaries on the Pacific Coast.

During the first quarter of the year, eastern marketers were holding California U. S. Motor at a quarter cent per gallon premium over eastern and Mid-Continent gasolines, and in one instance, this differential was widened to a half cent. Toward the close of the first half of the year, however, competition for gallonage sharpened, and the premium on the California gasoline was dropped. In view of the intensified competition in sight for the balance of the year, particularly with respect to the marketing of the Pacific Coast gasoline here, it is doubtful if the differential can be restored, although a premium may possibly be quoted at the height of the motoring season, when the demand for antiknock motor fuels is at its peak.

In the tank wagon market situation, the principal development has been the imposition of a tax of 2 cents per gallon on all gasoline sales in New York State, this tariff having gone into effect on June 1.

There were few sporadic outbursts of price cutting in Metropolitan New York during the early part of the year, but the principal factors did not participate in the price cutting campaign, and the markets were soon restored to normal.

Premium gasoline sales continued on the increase in local territory during the half year, with Ethyl gasoline, previously barred from sale in New York City, working up a good volume in that market. Leading refiners continue to adhere to a 2-cent premium on their high test fuels, although maintenance of this differential appeared threatened for a time when the Tide Water Oil Co. placed on the market it new "Hi-Test" gasoline, for which it claimed all the virtues of premium gasoline, at the regular tank wagon quotation.

During the first quarter, Albany, Schenectady, Syracuse and other upstate market centers were the scene of a quiet little price war which at times carried prices as much as 6 or 7 cents under the basis prevailing in other sections of the territory. During the second quarter, however, the situation quieted down, and quotations were marked up. Until June, however, prices outside of Metropolitan New York were 2 cents under the New York City basis, but since that time the differential has been narrowed down to 1 cent.

While the tank wagon gasoline situation is quite firm at the moment, refiners and marketers are proceeding cautiously, and it is generally conceded that difficult times confront marketers over the balance of the year, in view of the entry of several prominent new factors into the market since the start of the year. Thus far, the entry of these new interests has been accomplished with a minimum of market disturbance, but it must be remembered that these new factors have come in at a time when consumption is normally on the increase. Just what the situation will be when the peak of demand has been passed, and the seasonal decline in consumption sets in, is something that is giving market operators considerable food for thought. However, it is believed the spirit shown by leading companies in arriving at an agreement in the code of ethics which the industry had adopted will operate to prevent anything in the nature of a drastic price war in eastern territory.

In the export gasoline field, the formation of the export corporation has been instrumental in greatly stabilizing both markets and prices.

Marketing conditions, in general, during the first half of the year have shown vast improvement over those in effect during the first six months. Practically all of the old uneconomic schemes for boosting gallonage have been abandoned, and the half year in most cases has been a very profitable one for both refiners and marketers.

With the exception of one company, which is still delivering gasoline in steel barrels, it is believed that all of the principal marketers here are now using tank wagons for distributing motor fuel in New York City. A long fought controversy between local fire department officials and some of the oil companies and manufacturers of gasoline delivery trucks was recently settled when the fire department abandoned its previous policy of granting permits to but one truck manufacturer. A number of refiners and marketers who had been deferring the return to tank wagon deliveries pending the breaking of this virtual monopoly on gasoline deliveries in New York City, are now equipping their delivery departments with tank wagons.

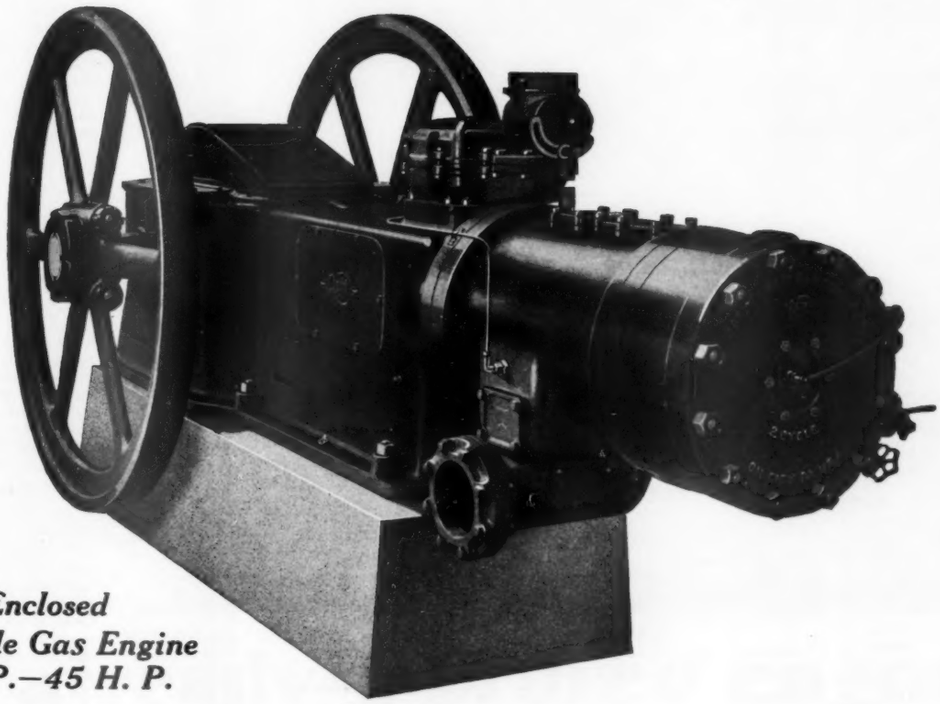
Kerosene

Tank car kerosene prices during the first half of 1929 have consistently averaged higher than those in effect during the same months of the previous year, and in addition, business has shown a steady increase over that for the first half. The market started off the year at 9 cents per gallon, was off a full cent to 8 cents by April 1, and held at that level to the middle of the year. Since that time there has been a slight weakening, however. Business has been uniformly good for practically the entire first six months, refiners at times during the first quarter being so closely sold up they were forced to defer deliveries in some instances. Consumption in the area for the six months showed a slight gain over the previous year. Kerosene distillate met with an active call for consumption in domestic oil heaters, and it is expected further expansion in this direction will be witnessed during the next few years.

The tank wagon market was steady at 15 cents per gallon during the entire first half, this quotation now having been in effect for more than a year and a half.

(Continued on Page 264)

Pumping Beam Wells— in Texas



Type C Enclosed Two Cycle Gas Engine 40 H. P.—45 H. P.

SEVERAL major producing companies, who keep accurate check on production costs, are specifying Reid Type C Two Cycle Enclosed Gas Engines for their beam well pumping.

They know the importance of economical operation. They know from experience the savings effected by Reid economy of operation and maintenance. And they know that economy is only one of the advantages afforded users of Reid Machinery.

The report given here is taken from an average well in a Texas field, pumped on the beam by a 40 HP Type C Gas Engine. The gas consumption and production are based on averages of 30-day (24 Hrs.) periods. This report is not given as a record but to show the average low-cost operation of Reid Engines pumping beam wells.

Depth	3000-ft.
Tubing	2½-inch
Bandwheel	11-foot
Stroke	63-inch
Strokes per minute	24
Engine speed	
For pumping	160 RPM
For pulling rods	350 RPM
Fluid lifted (24 hrs.)	806 bbls.
Gas consumption (24 hrs.)	9000-ft.
Cost of Gas	
Per thousand feet	25c
Per 24-hour day	$2.25

JOSEPH REID GAS ENGINE COMPANY
OIL CITY, PENNSYLVANIA, U. S. A.

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Tank Wagon Higher First Six Months

Averages for Year May Fall Below That of 1928. Higher Gasoline Taxes Adopted in Many States.

By W. T. Ziegenhain

With six months of 1929 passed, in which the average tank wagon gasoline price was above that of the corresponding period last year, it is still doubtful the average for the year will equal last year's. This uncertainty exists despite the upward trend of prices over the past four months and is due to the delay in the expected summer increase in consumption and the weakening of the refinery market as the production of crude nears the 3,000,000-bbl. a day mark. Apparently, the question of controlling crude production is the deciding factor in the retail market for the balance of 1929, since it is not likely that consumption will increase sufficiently to do more than reduce stocks to a comfortable margin by fall and continue to absorb the increased production of gasoline from refiners in practically all sections of the United States.

TABLE NO. 2

Following are the daily average tank wagon prices at Chicago for the past 16½ years, based on dump price of 100 gallons:

1913	14.84c
1914	12.07c
1915	11.04c
1916	17.16c
1917	20.03c
1918	22.27c
1919	22.15c
1920	25.45c
1921	20.28c
1922	20.23c
1923	17.05c
1924	17.68c
1925	16.27c
1926	17.03c
1927	14.71c
1928	14.25c
1929 (6 mos.)	14.60c

The history of tank wagon prices has been one of consistent "ups and downs" over the past as shown by the accompanying graph of the average tank wagon prices in 50 representative cities in the United States. However, the industry has failed to witness the "up" portion of the curve after nearly two years of waiting and it seems now the 18-cent and 19-cent averages appearing in the past are to be placed alongside of the 12-cent and 15-cent refinery gasoline prices of the past, to be remembered but not to be realized shortly again.

Analysis of Data

Analyzing the data shown in the accompanying tables, it is evident the western market has strengthened its position during the first six months of this year while the eastern market has been weakened. In Table 3, the average of the net tank wagon prices in the principal cities of the West Coast states shows an improvement of 3.03 cents compared to that on January 1 while the average of the Rocky Mountain states, which are also included in the general division, shows an improvement of .25 cent. This is in contrast with the decrease in the average for the East Coast and New England states of 1.18 cents and the southeastern group of .46 cent. The interior states, made up largely of the Standard Oil Co. of Indiana marketing territory shows very little change. In this territory there has been an improvement of .33 cent, due principally to the two 1-cent advances posted by the Standard Oil Co. of Indiana in the latter part of May. The average for this section was penalized by the comparatively low prices in Oklahoma and North Texas. Of the entire list of 50 cities, Tulsa, included in this group, shows the lowest net price at 10 cents. The next lowest is shown for Dallas, Tex., also of this group, and Memphis, Tenn., of the southeastern group, each showing an average of 13 cents net. Possibly, the Tulsa price is not fully representative for Oklahoma at present due to local price cutting, but a review of prices in other Oklahoma points shows low prices there also.

As another index of price trends, the net gasoline tank wagon price in Chicago may be referred to as shown in Table 2. Here the downward trend is seen from 1918 until the first six months of this year when a slight improvement is shown consistent with the general improvement in the central states.

State Taxes Increase

The first six months of this year has shown another substantial increase in the average of the state taxes. Nearly one-half cent per gallon has been added to the average gasoline price over the country as a result of the increase in state taxes. Already 18 states have increased their levies from 1 to 2 cents and on August 1, Illinois will be added with a 2-cent tax, which will complete the list of 48 states having a gasoline

(Continued on Next Page)

TABLE NO. 1

Average Tank Wagon Prices in Cents in 50 Representative Cities for the Past 5½ Years

	1924	1925	1926	1927	1928	1929
January 1	14.32	13.91	16.13	17.56	14.29	16.00
February 1	17.68	16.74	16.21	17.46	14.33	15.11
March 1	18.87	19.06	17.26	17.00	14.71	14.73
April 1	18.85	18.68	18.51	16.16	14.81	14.90
May 1	18.85	18.35	18.48	15.32	15.02	14.94
June 1	18.61	18.12	19.60	14.72	15.22	15.72
July 1	17.66	19.38	19.69	14.85	15.29	15.80
August 1	16.50	19.41	19.69	14.89	15.74	....
September 1	15.75	16.70	19.58	14.62	16.04	....
October 1	13.95	15.80	19.16	14.39	16.34	....
November 1	13.75	15.52	18.18	14.32	16.28	....
December 1	13.87	15.76	17.60	14.21	15.98	....
Average	16.55	17.37	18.34	15.46	15.34	15.17

TABLE NO. 3

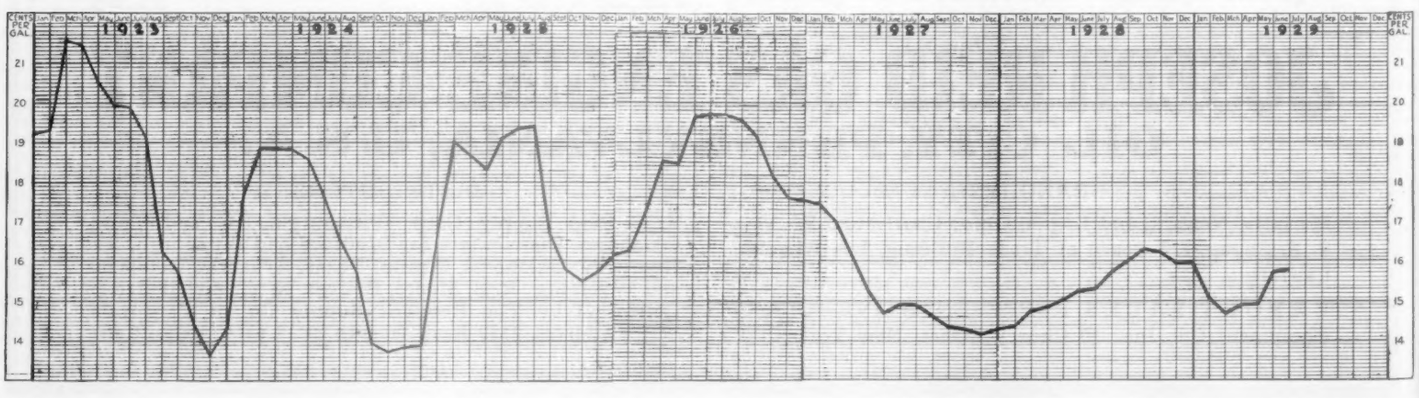
Gasoline Tank Wagon Price Changes During 1929 as Shown by Districts

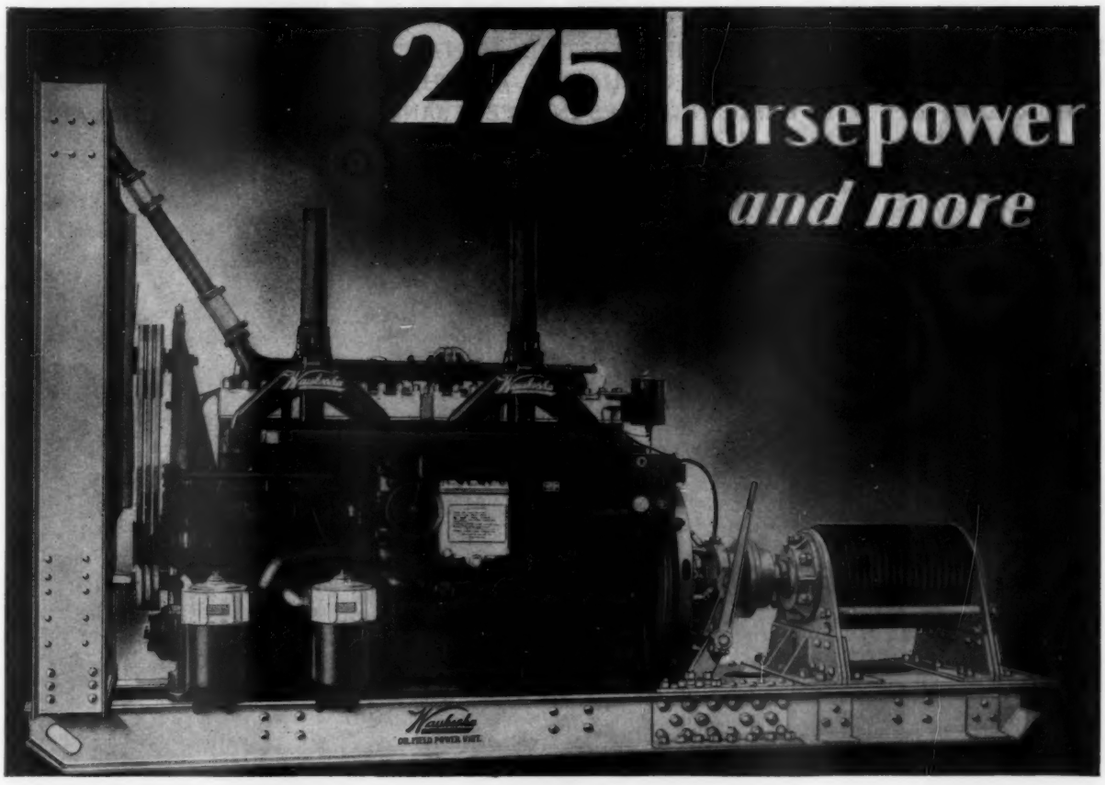
	Net gasoline tank wagon price Jan. 1 1929	July 1 1929
Western Coast—		
San Francisco, Calif.	14.0	17.0
Portland, Ore.	14.5	17.5
Seattle, Wash.	14.5	17.5
Average	14.30	17.33
Increase		3.03
Midwestern—		
Helena, Mont.	20.5	20.5
Boise, Idaho	20.5	20.5
Casper, Wyo.	16.0	17.0
Reno, Nev.	18.0	20.0
Salt Lake City, Utah	18.5	18.5
Denver, Colo.	14.0	14.0
Phoenix, Ariz.	14.0	14.0
Albuquerque, N. Mex.	17.0	16.0
Average	17.31	17.56
Increase		.25
Central—		
Fargo, N. Dak.	17.9	18.9
Huron, S. Dak.	16.3	17.3
Wichita, Kans.	13.8	14.8
Omaha, Neb.	15.25	16.25
Tulsa, Okla.	14.0	10.0
Dallas, Tex.	14.0	13.0
Little Rock, Ark.	16.0	15.0
Kansas City, Mo.	14.9	15.9
Des Moines, Iowa	15.5	16.5
Duluth, Minn.	16.5	17.5
Milwaukee, Wis.	15.1	16.1
Chicago, Ill.	15.0	16.0
Detroit, Mich.	15.8	16.8
Indianapolis, Ind.	15.2	16.2
Cleveland, Ohio	16.0	16.0
Average	15.42	15.75
Increase		.33
Atlantic and New England States—		
Augusta, Me.	17.0	16.0
Manchester, N. H.	17.0	16.0
Burlington, Vt.	17.0	15.0
Hartford, Conn.	18.0	16.0
Springfield, Mass.	18.0	16.0
New York, N. Y.	18.0	17.0
Philadelphia, Pa.	16.0	17.0
Providence, R. I.	18.0	14.0
Newark, N. J.	15.0	14.0
Baltimore, Md.	15.0	14.0
Dover, Del.	16.0	17.0
Average	16.82	15.64
Decrease		1.18
Southeastern—		
Norfolk, Va.	15.0	14.0
Charleston, W. Va.	15.0	14.0
Louisville, Ky.	16.0	16.0
Memphis, Tenn.	14.0	13.0
Atlanta, Ga.	18.0	18.0
Charlotte, N. C.	15.0	14.0
Charleston, S. C.	15.0	14.0
Natchez, Miss.	16.5	16.5
Birmingham, Ala.	18.0	18.0
New Orleans, La.	12.5	13.5
Jacksonville, Fla.	18.0	17.0
Average	15.73	15.27
Decrease		.46

TABLE NO. 4

Gasoline Tax Changes in First Six Months of 1929

State, date effective—	Old tax	New tax
Louisiana, Jan. 4	3.0	4.0
Massachusetts, Jan. 15	..	2.0
Tennessee, Feb. 2	3.0	5.0
South Carolina, Mar. 18	5.0	6.0
North Carolina, Mar. 23	4.0	5.0
Montana, April 1	3.0	5.0
Nebraska, April 1	2.0	4.0
Indiana, April 1	3.0	4.0
Kansas, April 1	2.0	3.0
Wyoming, April 1	3.0	4.0
Ohio, April 18	3.0	4.0
New York, May 1	..	2.0
Minnesota, May 1	2.0	3.0
Colorado, May 1	3.0	4.0
Oklahoma, June 23	3.0	4.0
North Dakota, July 1	2.0	3.0
Pennsylvania, July 1	3.0	4.0





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tax. At present the average gasoline tax in the United States as derived from the taxes in the 50 cities as listed, is 3.45 cents. This is comparable to the average of 3.07 cents on January 1 of this year. At this rate, the states will receive in excess of $450,000,000 in gasoline taxes this year and over the past three years these states will have received more than $1,000,000,000 from this source alone. For 1929, the average motorist will pay approximately $17.50 as a tax on the motor fuel he consumes and about an equal amount for his license or about 10 cents a day tax for the privilege of driving a car.

Just at what point the climbing gasoline tax will become oppressive remains to be seen. The 3-cent limit was set by some but this has been passed without a great deal of comment. In general, the oil industry has not opposed the gasoline tax and so long as the money is placed in new roads, it is not likely to be opposed up to a reasonable limit, but in several instances, the money has been diverted, in part, for the replenishing of funds in other departments. The tax is very easy to collect and apparently little objection is met on the part of the consumer which no doubt has been an influencing factor thus far. In Table 4 a list of state gasoline tax increases is shown covering the first six months of this year.

GASOLINE TANK WAGON PRICES IN EFFECT DURING FIRST SIX MONTHS OF 1929, EXCLUSIVE OF TAXES, IN 50 REPRESENTATIVE CITIES, WITH AMOUNT AND DATE OF CHANGES, ALSO HIGH AND LOW PRICES FOR 1926, 1927, 1928 AND FIRST SIX MONTHS OF 1929, WITH GASOLINE TAXES IN EFFECT JANUARY 1, 1926, 1927, 1928, 1929, AND JULY 1, 1929.

	Prices Jan. 1, 1929	Price changes during first 6 mos. 1929						Prices July 1, 1929	High and low prices								Taxes				
									1st 6 mos. 1929		1928		1927		1926		Jan. 1, 1926	Jan. 1, 1927	Jan. 1, 1928	Jan. 1, 1929	July 1, 1929
Birmingham, Ala.	18.0	1/16 16.0	1/31 15.0	2/2 16.0	2/14 14.0	5/15 17.0	5/27 18.0	18.0	18.0	14.0	18.0	14.0	18.0	14.0	20.0	16.0	2.0	2.0	4.0	4.0	4.0
Phoenix, Ariz.	14.0	....	....	....	....	....	....	14.0	14.0	14.0	18.0	14.0	19.0	16.0	22.0	19.0	3.0	3.0	4.0	4.0	4.0
Little Rock, Ark.	14.0	1/29 13.0	2/9 12.0	3/30 13.0	5/27 15.0	....	....	15.0	15.0	12.0	16.0	11.0	15.0	11.0	18.0	14.0	4.0	4.0	5.0	5.0	5.0
San Francisco, Calif.	14.0	2/15 12.0	3/18 16.0	6/19 17.0	....	....	....	17.0	17.0	12.0	14.0	14.0	14.0	9.0	16.0	13.0	2.0	2.0	3.0	3.0	3.0
Denver, Colo.	14.0	1/14 13.0	3/1 11.0	4/15 15.0	5/16 13.0	5/24 14.0	....	14.0	15.0	11.0	16.0	13.0	18.0	13.0	20.0	16.0	2.0	2.0	3.0	3.0	4.0
Hartford, Conn.	18.0	1/15 17.0	1/17 16.0	....	....	....	....	16.0	18.0	16.0	18.0	16.0	22.0	18.0	21.0	17.0	2.0	2.0	2.0	2.0	2.0
Dover, Del.	16.0	1/15 15.0	4/11 16.0	6/14 17.0	....	....	....	17.0	17.0	15.0	18.0	16.0	19.0	16.0	20.0	17.0	2.0	2.0	3.0	3.0	3.0
Jacksonville, Fla.‡	18.0	1/31 17.0	....	....	....	....	....	17.0	18.0	17.0	18.0	13.0	16.0	10.0	19.0	12.0	4.0	4.0	5.0	5.0	5.0
Atlanta, Ga.‡	18.0	1/31 17.0	5/27 18.0	....	....	....	....	18.0	18.0	17.0	18.0	13.0	18.0	10.0	21.0	14.0	3.5	3.5	4.0	4.0	4.0
Boise, Idaho	20.5	1/30 19.5	2/24 17.5	3/20 19.5	5/24 20.5	....	....	20.5	20.5	17.5	20.5	19.5	22.5	19.5	24.0	20.0	3.0	3.0	4.0	4.0	4.0
Peoria, Ill.	15.2	1/29 14.2	5/18 15.2	5/23 16.2	....	....	....	16.2	16.2	14.2	15.2	9.0	18.2	9.0	19.2	10.5	...	...	2.0	...	...
Chicago, Ill.	15.0	1/29 14.0	5/18 15.0	5/23 16.0	....	....	....	16.0	16.0	14.0	15.0	14.0	17.0	14.0	18.0	15.0	...	...	2.0	...	...
Indianapolis, Ind.	15.2	1/29 14.2	5/18 15.2	5/23 16.2	....	....	....	16.2	16.2	14.2	15.2	10.2	18.2	10.2	19.2	16.2	3.0	3.0	3.0	3.0	4.0
Des Moines, Iowa	15.5	1/29 14.5	5/18 15.5	5/23 16.5	....	....	....	16.5	16.5	14.5	15.5	11.9	16.0	9.9	19.5	16.0	2.0	2.0	3.0	3.0	3.0
Wichita, Kans.	13.8	1/29 12.8	5/18 13.8	5/23 14.8	....	....	....	14.8	14.8	12.8	13.8	10.8	15.8	10.8	16.8	14.8	2.0	2.0	2.0	2.0	3.0
Louisville, Ky.	16.0	1/31 15.0	5/27 16.0	....	....	....	....	16.0	16.0	15.0	16.0	13.0	17.0	13.0	20.0	17.0	3.0	5.0	5.0	5.0	5.0
New Orleans, La.	12.5	3/9 10.5	4/30 11.5	5/11 9.5	5/22 10.5	5/25 11.5	6/4 13.5	13.5	13.5	9.5	14.5	10.5	14.5	11.5	17.5	13.5	*3.0	*3.0	*3.0	*3.0	*5.0
Augusta, Me.	17.0	1/18 16.0	....	....	....	....	....	16.0	17.0	16.0	18.0	17.0	22.0	17.0	21.0	17.0	3.0	3.0	4.0	4.0	4.0
Baltimore, Md.	15.0	1/22 14.0	....	....	....	....	....	14.0	15.0	14.0	16.0	15.0	19.0	16.0	19.0	15.0	2.0	2.0	4.0	4.0	4.0
Springfield, Mass	18.0	1/15 17.0	1/17 16.0	....	....	....	....	16.0	18.0	16.0	18.0	16.0	22.0	17.0	21.0	17.0	...	...	...	...	2.0
Detroit, Mich.	15.8	1/29 14.8	5/18 15.8	5/23 16.8	....	....	....	16.8	16.8	14.8	15.8	11.8	18.8	11.8	19.8	16.8	2.0	2.0	3.0	3.0	3.0
Duluth, Minn.	16.5	1/29 15.5	5/18 16.5	5/23 17.5	....	....	....	17.5	17.5	15.5	16.5	12.5	19.5	12.5	20.5	15.5	2.0	2.0	2.0	2.0	3.0
Natchez, Miss.	16.5	1/31 14.0	2/2 15.5	5/27 16.5	....	....	....	16.5	16.5	14.0	16.5	12.5	15.5	12.5	18.5	15.5	3.0	4.0	4.0	5.0	5.0
Kansas City, Mo.	14.9	1/29 13.9	5/18 14.9	5/23 15.9	....	....	....	15.9	15.9	13.9	14.9	10.9	17.9	10.9	18.9	15.9	*3.0	*3.0	*3.0	*3.0	*3.0
Helena, Mont.	20.5	1/30 19.5	5/24 20.5	....	....	....	....	20.5	20.5	19.5	20.5	19.5	22.0	19.5	24.0	21.0	2.0	3.0	3.0	3.0	5.0
Omaha, Neb.	15.25	1/29 14.25	5/18 15.25	5/23 16.25	....	....	....	16.25	16.25	14.25	15.25	13.25	14.25	12.25	19.25	14.25	2.0	2.0	2.0	2.0	4.0
Reno, Nev.	18.0	3/19 20.0	....	....	....	....	....	20.0	20.0	18.0	18.0	18.0	18.0	15.0	19.5	16.5	4.0	4.0	4.0	4.0	4.0
Newark, N. J.	15.0	1/22 14.0	....	....	....	....	....	14.0	15.0	14.0	16.0	15.0	19.0	16.0	19.0	15.0	...	...	2.0	2.0	2.0
Albuquerque, N. Mex.	17.0	4/6 16.0	5/3 15.0	5/30 16.0	....	....	....	16.0	17.0	15.0	17.0	14.0	20.0	16.0	26.5	20.0	3.0	3.0	5.0	5.0	5.0
New York, N. Y.	18.0	1/22 16.0	5/1 17.0	....	....	....	....	17.0	18.0	16.0	18.0	17.0	22.0	17.0	21.0	17.0	...	...	...	...	2.0
Charlotte, N. C.	15.0	1/22 14.0	....	....	....	....	....	14.0	15.0	14.0	17.0	15.0	19.0	16.0	19.5	15.0	4.0	4.0	4.0	4.0	5.0
Fargo, N. Dak.	17.9	1/29 16.9	5/18 17.9	5/23 18.9	....	....	....	18.9	18.9	16.9	17.9	12.9	20.9	12.9	21.9	18.9	1.0	1.0	2.0	2.0	3.0
Cleveland, Ohio	16.0	1/29 15.0	3/5 14.0	5/6 15.0	5/29 16.0	....	....	16.0	16.0	14.0	16.0	14.0	19.0	14.0	20.0	16.0	2.0	2.0	3.0	3.0	4.0
Tulsa, Okla.	14.0	4/3 12.0	5/3 11.0	5/8 10.0	....	....	....	10.0	14.0	10.0	14.0	10.0	15.0	10.0	17.0	13.0	3.0	3.0	3.0	3.0	4.0
Portland, Ore.	14.5	2/15 12.5	3/19 16.5	6/19 17.5	....	....	....	17.5	17.5	12.5	14.5	14.5	14.5	11.0	16.0	13.0	3.0	3.0	3.0	3.0	3.0
Philadelphia, Pa.	16.0	1/15 15.0	4/11 16.0	6/14 17.0	....	....	....	17.0	17.0	15.0	18.0	15.0	19.0	12.0	20.0	17.0	†2.0	†2.0	†3.0	†3.0	†4.0
Providence, R. I.	18.0	1/15 17.0	1/17 16.0	6/14 14.0	....	....	....	14.0	18.0	14.0	19.0	17.0	22.0	17.0	21.0	17.0	1.0	1.0	2.0	2.0	2.0
Charleston, S. C.	15.0	1/22 14.0	....	....	....	....	....	14.0	15.0	14.0	17.0	15.0	19.0	15.0	19.5	15.0	5.0	5.0	5.0	5.0	6.0
Huron, S. Dak.	16.3	1/29 15.3	5/18 16.3	5/23 17.3	....	....	....	17.3	17.3	15.3	16.3	14.5	19.5	11.5	20.5	14.0	3.0	3.0	4.0	4.0	4.0
Memphis, Tenn.	14.0	1/22 13.0	4/23 11.0	5/22 12.0	5/25 13.0	6/11 13.0	....	13.0	14.0	11.0	16.0	12.0	15.0	10.0	18.5	13.5	3.0	3.0	3.0	3.0	5.0
Dallas, Tex.	14.0	3/20 11.0	6/11 13.0	....	....	....	....	13.0	14.0	11.0	14.0	9.0	13.0	10.0	17.0	13.0	1.0	1.0	3.0	2.0	2.0
Salt Lake City, Utah	18.5	1/30 17.5	5/24 18.5	....	....	....	....	18.5	18.5	17.5	18.5	16.5	20.5	16.5	22.5	18.5	3.5	3.5	3.5	3.5	3.5
Burlington, Vt.	17.0	1/18 16.0	1/31 15.0	....	....	....	....	15.0	17.0	15.0	18.0	17.0	22.0	17.0	21.0	18.0	2.0	2.0	3.0	4.0	4.0
Norfolk, Va.	15.0	1/22 14.0	....	....	....	....	....	14.0	15.0	14.0	16.0	14.0	18.0	16.0	19.0	15.0	3.0	4.5	4.5	5.0	5.0
Washington, D. C.	15.0	1/22 14.0	....	....	....	....	....	14.0	15.0	14.0	16.0	15.0	19.0	16.0	19.0	15.0	2.0	2.0	2.0	2.0	2.0
Charleston, W. Va.	15.0	1/22 14.0	....	....	....	....	....	14.0	15.0	14.0	17.0	15.0	18.0	16.0	19.0	15.0	3.5	3.5	4.0	4.0	4.0
Milwaukee, Wis.	15.1	1/29 14.1	5/18 15.1	5/23 16.1	....	....	....	16.1	16.1	15.1	15.1	13.1	18.1	13.1	19.1	16.1	2.0	2.0	2.0	2.0	2.0
Casper, Wyo.	16.0	1/30 15.0	5/19 16.0	5/24 17.0	....	....	....	17.0	17.0	15.0	16.0	14.0	18.0	14.0	20.0	17.0	2.5	2.5	3.0	3.0	4.0
Seattle, Wash.	14.5	2/15 12.5	3/19 16.5	6/19 17.5	....	....	....	17.5	17.5	12.5	14.5	14.5	14.5	11.0	16.0	13.0	2.0	2.0	2.0	2.0	2.0
Minneapolis, Minn.	16.2	1/29 15.2	5/18 16.2	5/23 17.2	....	....	....	17.2	17.2	15.2	16.2	11.0	15.2	11.0	20.2	15.2	2.0	2.0	2.0	2.0	2.0
Average price	16.00	....	....	....	....	....	....	16.02	16.56	14.51	16.54	13.54	18.15	13.55	19.71	15.71	2.34	2.47	3.08	3.07	3.45

Note.—The Standard Oil Co. of Indiana allows the following quantity discounts from the service station prices on monthly sales of gasoline: 2,000 gallons or less, 2 cents; more than 2,000 and less than 6,000 gallons, 2½ cents; more than 6,000 gallons, 3 cents. Discounts are allowed each month, and they are not cumulative. Delivery tickets showing date and quantity delivered must be sent to the seller before the tenth of the month to secure the discount on the previous month's purchases.

Effective February 20, discounts on Q.D.A. in Chicago district 2 cents off service station price on purchases of 500 gallons or more per month and 4 cents on purchases of 1,000 gallons or more per month.

Magnolia Petroleum Co., Standard Oil Co. of Kentucky (after April 2) and the Standard Oil Co. of Ohio allow a 2-cent discount off the tank wagon price on commercial accounts and to dealers in their respective marketing territories. The Atlantic Refining Co. makes the same allowance except only under contracts running for one year or more.

*Includes 1-cent city tax, as state tax is only 4 cents.

†Pennsylvania tax paid by dealers and is not to be added to tank wagon postings.

‡Jacksonville prices include one-eighth cent inspection fee, but at Atlanta one-half cent fee is not included.

Barnsdall Oil Company's Gibson No. 1, Earlsboro, Oklahoma. The men are: H. Burns, driller, left, and F. Eades tooldresser, right.

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All through the oil fields, wherever they have tried Union Wire Lines, the men who make the holes and the men who pay the bills, like the service these lines give.

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UNION WIRE LINES

Export Outlets Continue to Expand

Formation of Petroleum Export Association, Inc., Outstanding Development of First Six Months. Foreign Markets Highly Competitive

By A. E. Mockler

New York Bureau, The Oil and Gas Journal

NEW YORK, July 19.—Steady gains in export demand for American motor fuels developed during the first half of the year, and the market, on the whole, was in fairly satisfactory position. Export buying of other products, however, generally fell off from comparable 1928 levels. While detailed data for the six months' period is as yet lacking, preliminary reports indicate that exports of American petroleum products, as a whole, were about 2 per cent in excess of those during the corresponding months last year. This average, however, was buoyed up by gasoline, which has shown a gain of close to 10 per cent over the first six months of 1928.

A revolutionary change in export marketing of gasoline and kerosene developed this year with the action of the newly-formed Export Petroleum Association, Inc., in taking over the duty of fixing prices on these products for distribution to foreign markets. The Export Corp. early in the year established a Gulf basis on both gasoline and kerosene, and sales made from other refinery points, such as California and the East Coast area, have in practically all instances been made at the Gulf basis, with the usual freight differentials.

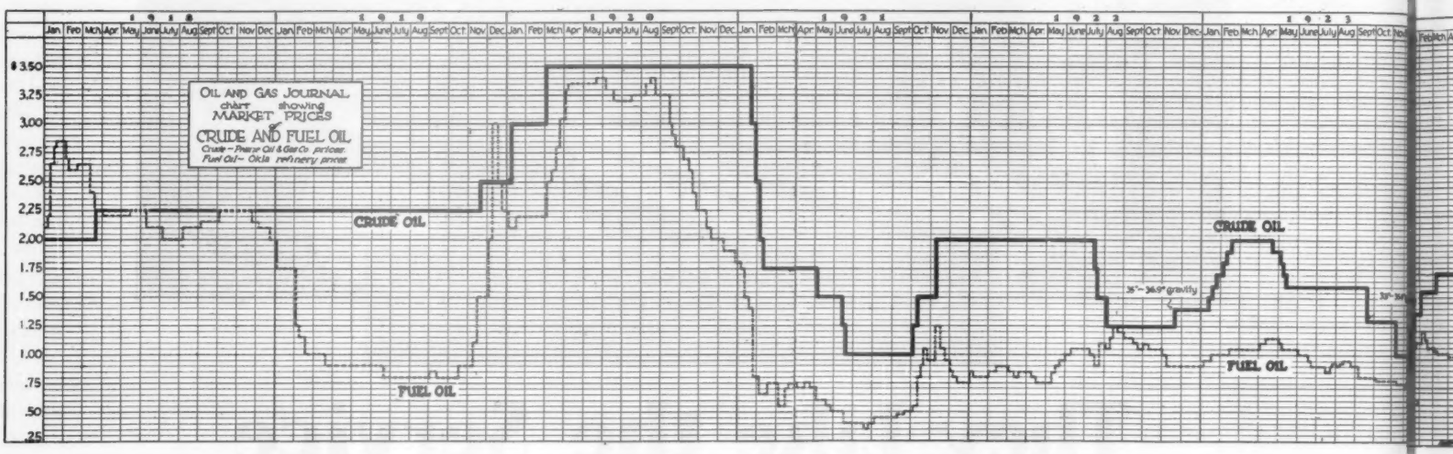
The Export Association first made its influence felt in the market during the first quarter of the year, when it established gasoline at the Gulf at 8½ cents per gallon for Navy, 9½ cents for 60-62 degrees 400 endpoint, 9¾ cents for 61-63 gravity, 390 endpoint, and 10 cents for 64-66 gravity 375 endpoint. These prices have continued since that time. Export kerosene at the Gulf was established at 7 cents for prime white and 8 cents for water white, advanced three-quarters cent on each grade, and reacted downward to the original basis at the end of June.

A feature of the assumption of export market control by the Export Petroleum Association was the action of principal refiners in withdrawing all open-market quotations on cased kerosene and gasoline and quoting these products for export only upon specific inquiry from buyers.

Settlement of the dispute between prominent European oil companies and the Soviet Trust was an outstanding development of the first half of 1929, and one that many oil men feel is destined to have an important bearing upon the American petroleum industry in the near future. The Russian trust for years has been conducting a more or less spirited price warfare on petroleum products with European companies, notably Royal Dutch-Shell and Anglo-Persian. During the greater part of 1927 and 1928, the price war which prevailed between Russian and other oil products in Great Britain became so intense that British companies were being forced to operate at a loss to meet the competition of the Russian oil. Several efforts were made to adjust the situation, but in each instance European oil companies demand that the Soviet recompense them for properties which they had formerly owned in Russia, and which has been confiscated and nationalized by the Soviet. The Russian government consistently refused to meet this demand.

End Price War

Early this year, a series of conferences between representatives of the Soviet oil trust and leading European companies was launched in London, and an agreement finally arrived at whereby the price war on gasoline and other products in Great Britain was terminated. Under the terms of this agreement, leading British oil companies contracted to take large tonnage of Russian gasoline, kerosene, and a small quantity of lub oil. The



	Price	
	Crude 36° gr.	Fuel oil 18-22° gr.
1919—		
January 2	....	$1.75
February 3	....	1.25
February 9	....	1.15
February 20	....	1.00
March 21	....	.90
June 21	....	.80
September 2	....	.85
September 12	....	.80
October 17	....	.90
November 8	....	1.10
November 15	....	1.50
November 20	$2.50	....
December 2	....	2.00
December 8	....	3.00
December 16	....	2.50
December 21	....	2.25
1920—		
January 2	....	2.10
January 6	3.00	....
January 16	....	2.20
March 1	3.50	....
March 3	....	2 50
March 12	....	2 60
March 18	....	2.80
March 26	....	3.05
April 3	....	3 30
April 6	....	3.35
May 25	....	3.40
June 7	....	3.30
June 20	....	3.20
July 14	....	3 25
August 6	....	3 25
August 14	....	3 40
August 27	....	3 25
September 13	....	3 00
September 16	....	2.90
September 27	....	2.80
October 8	....	2.70
October 15	....	2.60
October 18	....	2.40
October 28	....	2.25
November 12	....	2.10
November 18	....	2 00
December 10	....	1 90
December 29	....	1 80
1921—		
January 6	....	1.75
January 12	....	1.50
January 20	....	1.40
January 24	3.00	....
January 28	....	.80
January 31	2.50	....
February 4	2.00	.65
February 9	1.75	....
February 19	....	.75
March 4	....	.55
March 14	....	.70
March 21	....	.75
April 3	....	.70
April 16	....	.75
April 20	....	.70
May 2	1.50	....
May 3	....	.60
May 21	....	.55
May 28	....	.50
June 13	1.25	....
June 16	1.00	.40
June 20	....	.35
July 26	....	.40
August 6	....	.45
Sep.ember 10	....	.47½
September 21	....	.50
October 1	1.25	....
October 6	....	.55
October 7	1.50	....
October 10	....	.80
October 15	....	.90
October 19	....	1.05
October 24	....	.95
November 7	2.00	....
November 8	....	1.25
November 16	....	1.05
November 20	....	.95
December 1	....	.85
December 5	....	.80
December 12	....	.75
1922—		
January 1	....	.85
January 5	....	.80
February 1	....	.85
February 14	....	.90
March 2	....	.85
March 10	....	.80
March 16	....	.85
April 9	....	.80
April 15	....	.70
May 9	....	.85
May 15	....	.90
May 20	....	.95
June 1	....	1.00
June 9	....	1.05
July 8	....	1.00
July 15	1.75	.90
July 18	....	1.50
July 22	....	1.10
August 2	1.25	1.05
August 7	....	1.15
August 14	....	1.25
August 25	....	1.20
September 1	....	1.15
September 15	....	1.10
September 24	....	1.05
October 1	....	1.10
October 10	....	1.05
November 1	....	1.00
November 8	....	.90
November 22 (35-36.9°)	1.40	....
1923—		
January 5	....	.95
January 13	1.50	....
January 17	1.60	1.00
January 27	1.70	....
February 2	1.80	....
February 10	1.90	....
February 15	....	1.05
February 17	2.00	....
April 8	....	1.10
April 14	....	1.15
April 23	1.80	....
May 2	1.80	....
May 5	1.70	1.05
May 12	1 60	....
June 2	....	1.00
June 19	....	.90
June 24	....	.90
July 15	....	.85
July 21	....	.90
July 26	....	.92½
August 1	....	.90
August 6	....	.92½
August 12	....	.95
August 27	....	.90
September 9	....	.80
September 19 (33-39.9°)	1.30	....
October 5	....	.77½
November 8	1.00	....
November 10	....	.75
December 1	....	.70
December 7	....	.75
December 14	....	.80
December 21	....	.85
December 29	....	.90
1924—		
January 8	....	.95
January 9 (33-35.9°)	1.25	....
January 15	....	1.10
January 19	1.40	....
January 22	....	1.15
February 2	1 60	....
February 5	....	1.25
February 12	....	1.17½
February 19	....	1.10
March 4	....	1.07½
March 8	1.75	....
March 11	....	1.05
April 1	....	1.02½
April 15	....	1.00
April 22	....	.95
April 29	....	.87½
May 6	....	.85
May 20	....	.82½
May 27	....	.77½
June 3	....	.75
June 10	....	.72½
June 17	....	.75
June 24	....	.80
July 1	....	.77½
July 17 (33° and above)	1.75	....
July 22	....	.75
July 28	1.50	....
August 5	....	.72½
August 12	....	.75
August 19	....	.80
August 26	....	.85
September 2	....	.90
September 16	....	.95
September 17	1.25	....
September 27 (33-35.9°)	1.10	....
September 30	....	.92½
October 7	....	.90
October 21	....	.92½
October 28	....	.95
November 4	....	1.00
November 18	....	1.05
December 2	....	1.15
December 9	....	1.17½
December 30	....	1.25
1925—		
January 6	....	1.27½
January 13	....	1.30
January 20	....	1.32½
January 22	1.35	....
January 27	....	1.35

Russians, on their part, agreed to cease their price cutting tactics, and an immediate advance of 4 cents a gallon in the retail price of motor fuel developed throughout Great Britain.

While the Soviet, under the terms of the agreement, did not recognize the principle of compensation to former owners of oil properties in Russia, there was a joker in the deck in the form of a clause in the contracts for the purchase of Russian oil whereby several of the companies which had claims against the Soviet are enabled to buy Russian petroleum products at a price sufficiently under the world parity to constitute virtual compensation to them for lost properties.

While this agreement, at the outset, would appear beneficial to the American petroleum industry, in as much as it once again restores the British petroleum industry to a profitable basis and permits of more normal operations by English oil companies, there is another angle to the picture in the form of the huge quantities of Russian oil products which Great Britain will consume. Not only has the Soviet Oil Trust cut into American gallonage of gasoline and kerosene in Great Britian, but Russian oil has also made inroads into other European markets previously supplied to a large extent by the United States. Russian oil interests have been successful in booking fairly large contracts with the Spanish Petroleum Monopoly, although that body is also a heavy taker of American oil products.

Export Association

The Export Petroleum Association, which was organized late in 1928, may now be said to have safely passed through the organization period, and is a potent factor in the world petroleum situation. During the first half of the year the export group was instrumental in holding export gasoline markets in steady position at a time when considerable irregularity ruled in domestic markets, with heavy overproduction of crude petroleum. Foreign buyers, for a time, fought the market basis established by the Export Association, and for long periods, export markets were in extremely dull position. This, however, was merely in the nature of sounding out the firmness of the market as established by the export group.

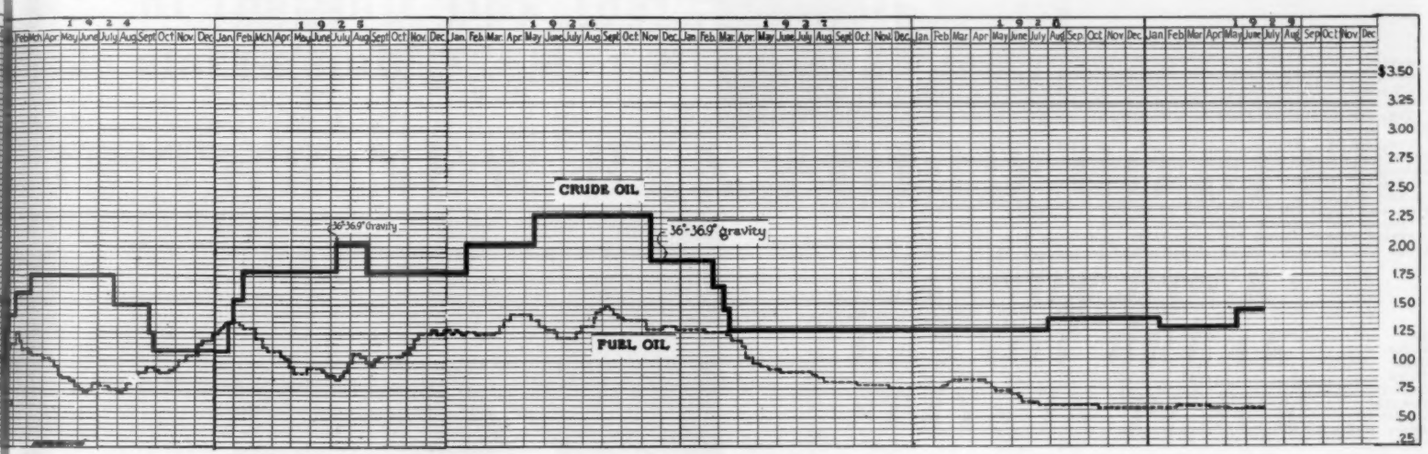
One factor which seriously hindered European buying of gasoline and other American petroleum products during the first quarter this year was the exceptionally severe winter experienced in many parts of Europe. In many sections of Central Europe and the Scandinavian countries, the cold was so intense that historians were forced to go back two or three centuries to get parallels to the intense cold. This naturally "froze" consumption of petroleum products throughout many parts of Europe, and resulted in a backing up of stocks in the hands of European distributing companies. Thus, many European distributors went into the spring season with much larger stocks of gasoline on hand than would normally be the case, and the liquidation of these supplies naturally delayed the development of the normal spring buying movement.

Gasoline

Export prices established by the export group early in the year have been firmly maintained since that time, with few exceptions. At the time the prices were originally established, in January, there was a little tendency shown to shade prices, and one or two independents put through export sales in January and February at a quarter to a half cent per gallon under the prevailing listed prices. Since that time, however, the export basis has been well maintained, and volume has picked up steady. After a late spring start, buying of gasoline for shipment abroad has increased to the point where sales totals for the first six months of the year are running about 10 per cent ahead of those for the comparable period in 1928.

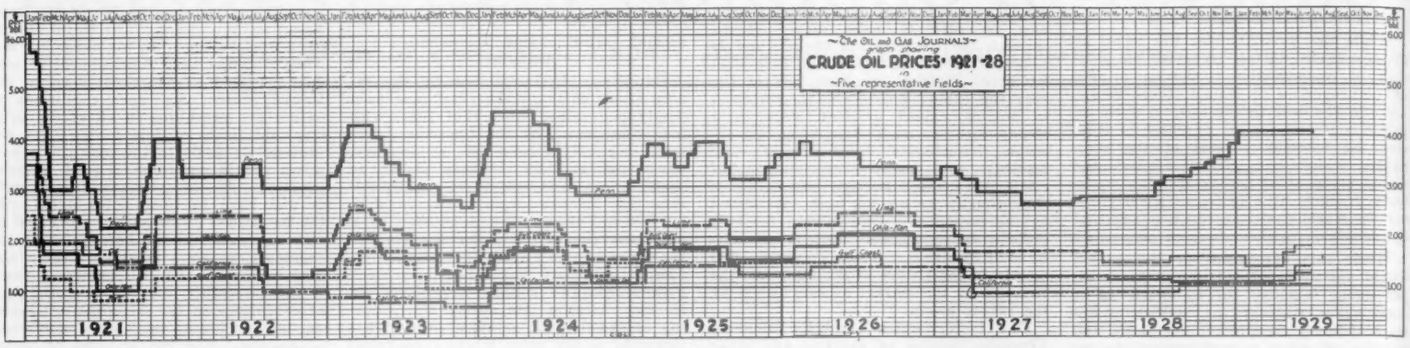
During the early part of June, with the domestic gasoline market on the increase and prices 2 to 3 cents per gallon over the low point for the year, it appeared probable that an advance in the export quotation would be made, and considerable advance buying was done by some operators in the expectation of such a development. The export association met late in June to consider the question, but decided to leave the matter in the hands of its price committee for further consideration, following a public protest against any increase by Richard Airey, president of the Asiatic Petroleum Corp., American Subsidiary of the Royal Dutch-Shell organization. In his objection, Mr. Airey declared that "Curtailment of production plans have broken down in the United States; wide-open conditions of output are prevailing in all of the principal oil fields of this nation; yet the proposal is made to increase the export price. It is contrary to good business practice. If the price is raised now, it will have to come down again. In the meantime, losses will be sustained by storage costs and evaporation and the repercussion on individual companies may be severe. Of still greater moment is the possibility that distrust and lack of confidence in the American oil industry may spring up in consuming markets of Europe. The matter must be looked at from the view of the buyer in London, Paris, Berlin or other European cities. The Export Petroleum Association was created not as a monopoly or a price raising agency but as a stabilizing influence in the interests of the people, the companies, and the stockholders in those companies. With mouting production, in excess of requirements, it may be possible to hold supplies off the market for a time in the interests of orderly marketing, but supply and de-

(Continued on Page 178)



January 30	1.55	....
February 10	....	1.32½
February 12	1.80	....
February 17	....	1.30
March 3	....	1.20
March 17	....	1.12½
March 24	....	1.10
April 14	....	1.05
April 21	....	1.02½
April 28	....	.95
June 16	....	.92½
June 23	....	.90
June 30	....	.87½
July 7	....	.85
July 10 (30-36.9°)	2.04	....
July 14	....	.87½
July 21	....	.92½
July 28	1.00	....
August 4	1.07½	....
August 18	1.05	....
August 25	1.00	....
August 27	1.79	....
September 1	....	.97½
September 8	....	1.03½
September 15	....	1.05
October 27	....	1.07½
November 3	....	1.12½
November 10	....	1.20
November 17	....	1.25
December 8	....	1.27½
December 15	....	1.25
December 29	....	1.27½
1926—		
January 5	....	1.25
January 12	....	1.27½
January 19	....	1.25
January 26	....	1.2
February 1	2.04	....
February 2	....	1.25
February 15	....	1.22½
March 16	....	1.25
March 23	....	1.30
March 30	....	1.35
April 13	....	1.40
May 11	....	1.35
May 15	2.29	....
May 25	....	1.30
June 1	....	1.27½
June 15	....	1.25
June 22	....	1.20
July 20	....	1.25
July 27	....	1.30
August 17	....	1.37½
August 24	....	1.42½
August 31	....	1.45
September 7	....	1.47½
September 14	....	1.45
September 21	....	1.40
September 28	....	1.37½
October 5	....	1.35
November 9	....	1.27½
November 17	1.90	....
December 7	....	1.30
December 28	....	1.27½
1927—		
January 1	1.90	....
January 4	....	1.27½
January 11	....	1.27½
January 18	....	1.27½
January 25	....	1.27½
February 1	....	1.27½
February 8	....	1.25
February 15	....	1.25
February 22	1.67	1.25
March 1	....	1.25
March 5	1.47	....
March 8	....	1.25
March 12	1.28	....
March 15	....	1.22½
March 22	....	1.17½
March 29	....	1.17½
April 5	....	1.12½
April 12	....	1.02½
April 19	....	.97½
April 26	....	.97½
May 3	....	.95
May 10	....	.95
May 17	....	.92½
May 24	....	.92½
May 31	....	.92½
June 7	....	.90
June 14	....	.90
June 21	....	.90
June 28	....	.90
July 5	....	.90
July 12	....	.90
July 19	....	.90
July 26	....	.87½
August 2	....	.85
August 9	....	.85
August 16	....	.80
August 23	....	.80
August 30	....	.80
September 6	....	.80
September 13	....	.80
September 20	....	.80
September 27	....	.80
October 4	....	.77½
October 11	....	.77½
October 18	....	.77½
October 25	....	.77½
November 1	....	.77½
November 8	....	.77½
November 15	....	.77½
November 22	....	.75
November 29	....	.75
December 6	....	.75
December 13	....	.75
December 20	....	.75
December 27	....	.75
1928—		
January 3	....	.75
January 10	....	.75
January 17	....	.75
January 24	....	.75
January 31	....	.75
February 7	....	.75
February 14	....	.77½
February 21	....	.80
February 28	....	.82½
March 6	....	.82½
March 13	....	.82½
March 20	....	.82½
March 27	....	.82½
April 3	....	.82½
April 10	....	.82½
April 17	....	.82½
April 24	....	.80
May 1	....	.75
May 8	....	.72½
May 15	....	.72½
May 22	....	.72½
May 29	....	.70
June 5	....	.70
June 12	....	.67½
June 19	....	.62½
June 26	....	.62½
July 3	....	.62½
July 10	....	.62½
July 17	....	.60
July 24	....	.60
July 27	1.36	.60
July 31	....	.60
August 6	....	.60
August 13	....	.60
August 20	....	.60
August 27	....	.60
September 4	....	.60
September 11	....	.60
September 18	....	.60
September 25	....	.60
October 2	....	.60
October 9	....	.60
October 16	....	.55
October 23	....	.55
October 30	....	.55
November 6	....	.55
November 13	....	.55
November 20	....	.55
November 27	....	.55
December 4	....	.55
December 11	....	.55
December 18	....	.55
December 25	....	.55
1929—		
January 1	....	.55
January 8	....	.55
January 15	....	.55
January 22	....	.55
January 25	1.20	.55
January 29	....	.55
February 5	....	.55
February 12	....	.55
February 19	....	.55
February 26	....	.60
March 5	....	.57½
March 12	....	.57½
March 19	....	.57½
March 26	....	.57½
April 2	....	.57½
April 9	....	.57½
April 16	....	.55
April 23	....	.55
April 30	....	.55
May 7	....	.55
May 14	....	.53½
May 20	1.45	.53½
May 21	....	.53½
May 28	....	.53½
June 4	....	.55
June 11	....	.55
June 18	....	.55
June 25	....	.55
July 1	....	.55

Crude Oil Price Changes First Half of 1929



Crude price changes on representative crudes in important areas covering period from January 1, 1921, to July 1, 1929. Pennsylvania price based on Pennsylvania grade in New York Transit lines, Lima crude for the Ohio fields, 36 gravity Mid-Continent crude for the Oklahoma-Kansas fields, Grade A for the Gulf Coast fields and 25 gravity Long Beach crude for California fields.

OKLAHOMA, KANSAS, NORTH AND EAST CENTRAL TEXAS

	Jan. 1	Jan. 1*	Jan. 25†	Jan. 25*	May 20	May 20*
Below 25 gravity	.60	.60	.60	.60	.85	.70
25 to 25.9	.67	.67	.66	.60	.80	.70
26 to 26.9	.74	.74	.72	.65	.95	.75
27 to 27.9	.81	.75	.78	.70	1.00	.85
28 to 28.9	.88	.75	.84	.75	1.05	.90
29 to 29.9	.95	.75	.90	.80	1.10	.95
30 to 30.9	1.02	.90	.96	.90	1.15	1.05
31 to 31.9	1.09	1.05	1.02	1.00	1.20	1.15
32 to 32.9	1.16	1.16	1.08	1.08	1.25	1.25
33 to 33.9	1.21	1.21	1.11	1.11	1.30	1.30
34 to 34.9	1.26	1.26	1.14	1.14	1.35	1.35
35 to 35.9	1.31	1.31	1.17	1.17	1.40	1.40
36 to 36.9	1.36	1.36	1.20	1.20	1.45	1.45
37 to 37.9	1.41	1.41	1.23	1.23	1.50	1.50
38 to 38.9	1.46	1.46	1.26	1.26	1.55	1.55
39 to 39.9	1.51	1.51	1.29	1.29	1.60	1.60
40 to 40.9	1.56	1.56	1.32	1.32	1.65	1.65
41 to 41.9	1.61	1.61	1.35	1.35	1.70	1.70
42 to 42.9	1.66	1.66	1.38	1.38	1.75	1.75
43 to 43.9	1.71	1.71	1.41	1.41	1.80	1.80
44 and above	1.76	1.76	1.44	1.44	1.85	1.85

Note—Gravity price schedule includes postings of all major companies in field with exceptions shown.

Postings by: Prairie Oil & Gas Co., The Texas Company and Sinclair Crude Oil Purchasing Co., includes Oklahoma, Kansas and North Texas. Magnolia Petroleum Co. includes Oklahoma, Kansas, North Texas, Panola County in East Texas, Lytton Springs in Southwest Texas. Humble Oil & Refining Co. includes North Texas, Ranger, Mexia, Powell, Richland, Wortham, Currie, Moran, Nocona, Lytton Springs and Corsicana light. Carter Oil Co. and Gypsy Oil Co. includes Oklahoma and Kansas.

*Posted by Magnolia Petroleum Co. only.

†Price change shown for January 25 made that date by all companies except Carter, Humble and Magnolia, which posted schedule January 24.

MIDDLE WESTERN STATES

Ohio Oil Co.

	Jan. 1	Jan. 25	Feb. 16	Mar. 16	Apr. 26	May 1	May 21	June 1
Lima	1.60	1.50	....	....	1.65	....	1.80	....
Wooster	1.77	1.62	....	....	1.75	....	1.90	....
Illinois	1.55	1.45	....	....	1.60	....	1.75	....
Indiana	1.37	1.27	....	....	1.42	....	1.57	....
Princeton	1.55	1.45	....	....	1.60	....	1.75	....
Plymouth	1.28	1.18	....	....	....	....	1.28	....
Waterloo	1.35	....	....	....	....	....	....	....
Western Kentucky	1.63	1.53	....	....	1.68	....	1.83	....
Oil City, Ky.*	1.75	....	1.60	1.50	....	1.65	....	1.50

Cumberland, Barren†, Clinton and Monroe Counties in Kentucky, and Clay and Pickett Counties in Tennessee posted by Paragon Development Co. Price January 1, $1.50.

*Oil City, Ky., crude posted by Stoll Oil Refining Co.

†A premium of 20 cents is paid for Barren County crude.

	Jan. 1	Feb. 7	Mar. 11	Apr. 15	May 23	June 3	June 26
Saginaw (Saginaw sand) Mich.	1.89	....	....	....	....	....	....
Saginaw (Brea sand) Mich.	1.79	....	....	....	....	....	....
Dundee, Mich.	....	....	.50	.60	.70	.80	....	1.25
Midland, Mich.	....	....	....	....	1.50	....	1.70	....

Note: Saginaw and Midland, Mich., crudes posted by Sun Oil Co. Dundee posted by Standard of Indiana.

MEXICAN CRUDES

	Jan.	Feb.	Mar.	Apr.	May
Panuco heavy (f.o.b. Tampico)	.74	.70	.68	.61	.60

Note: Due to the fact that the exportation of Tuxpam light crude has become a negligible factor, prices are no longer being published.

ARKANSAS-NORTH LOUISIANA

Caddo, Bull Bayou, Crichton, Haynesville, Homer (La.) and De Soto, El Dorado, Ark.

	Jan. 1	Jan. 26	May 22
Below 28	.81	.78	1.00
28 to 28.9	.88	.84	1.05
29 to 29.9	.95	.90	1.10
30 to 30.9	1.02	.96	1.15
31 to 31.9	1.09	1.02	1.20
32 to 32.9	1.16	1.08	1.25
33 to 33.9	1.21	1.11	1.30
34 to 34.9	1.26	1.14	1.35
35 to 35.9	1.31	1.17	1.40
36 to 36.9	1.36	1.20	1.45
37 to 37.9	1.41	1.23	1.50
38 to 38.9	1.46	1.26	1.55
39 to 39.9	1.51	1.29	1.60
40 to 40.9	1.56	1.32	1.65
41 to 41.9	1.61	1.35	1.70
42 to 42.9	1.66	1.38	1.75
43 to 43.9	1.71	1.41	1.80
44 and above	1.76	1.44	1.85

Major companies posting are:

Magnolia Petroleum Co., Pine Island (Caddo), Haynesville, Bull Bayou and El Dorado.

Standard Oil Co. (La.) and Gulf Refining Co., all fields.

Atlantic Oil Producing Co., Homer, Haynesville and West El Dorado.

The Texas Company, Caddo, Bull Bayou and Crichton.

Louisiana Oil Refining Corp., all fields.

Note—On postings for January 26 The Texas Company carried 6-cent price differential per degree down to 24 and below at 60 cents.

Champagnolle

	Jan. 1
Below 24	.75
24 to 27.9	.85
28 to 29.9	1.00
30 to 32.9	1.15
33 and above	1.25

First posted by Root Refineries.

Stephens

	Jan. 1	Jan. 28	May 31
Below 28	.75	.70	.90
28 to 28.9	.79	.74	.94
29 to 29.9	.83	.78	.98
30 to 30.9	.87	.82	1.02
31 to 31.9	.91	.86	1.06
32 and above	.95	.90	1.10

Posted by Atlantic Oil Refining Corp. and Louisiana Oil Refining Corp.

Smackover

	Jan. 1	May 20
Below 24	.75	.85
Above 24	.90	1.00

Posted by Standard Oil Co., The Texas Company, Gulf Refining Co., Atlantic Oil Producing Co., Louisiana Oil Refining Corp. and Magnolia Petroleum Co.

	Jan. 1	Apr. 22	May 21	May 22	May 29
Cotton Valley	(*)	...	...	...	...
Bellevue	1.20	...	...	...	1.30
Urania	.90	1.00	1.10	...	...
East El Dorado	1.00	...	...	.85	...

Cotton Valley: Standard Oil Co. of Louisiana, Magnolia Petroleum Co. and Louisiana Oil Refining Corp.

Bellevue: Standard Oil Co. of Louisiana, Gulf Refining Co. and Louisiana Oil Refining Corp.

Calion (East El Dorado): Gulf Refining Co.

*Standard of Louisiana posted Cotton Valley crude 36 gravity and above on regular Mid-Continent crude price schedule. All crude below 36 gravity, 75 cents on January 1; on May 22 posted at 85 cents.

SOUTH CENTRAL AND SOUTHWESTERN TEXAS

Lytton Springs—Posted by the Magnolia Pipe Line Co. and Humble Pipe Line Co. under the Mid-Continent gravity schedule.

Thrall—Effective March 16, 1926, Magnolia Pipe Line Co. posts same price as corresponding grade Mid-Continent crude less 19½ cents freight per cwt.

	Jan. 1	Jan. 7	Jan. 11	May 20
Rockdale-Minerva—				
Up to 37.9 gravity	1.25	...	...	...
38 to 38.9 gravity	1.27	...	...	...
39 to 39.9 gravity	1.29	...	...	...
40 and above grav.	1.31	...	...	...
Luling	1.00	...	.80	.90
Calliham	1.75	...	...	...
Mirando	1.00	.80	...	.90
Corsicana heavy	1.00	...	.80	...
Salt Flat	...	...	...	1.25

	Jan. 1	Jan. 7	Apr. 1
Somerset—			
28 to 28.9 gravity	1.12	*1.05	1.05
29 to 29.9 gravity	1.14	1.05	1.05
30 to 30.9 gravity	1.16	1.05	1.05
31 to 31.9 gravity	1.18	1.05	1.05
32 to 32.9 gravity	1.20	1.05	1.05
33 to 33.9 gravity	1.22	1.07	1.07
34 to 34.9 gravity	1.24	1.09	1.09
35 to 35.9 gravity	1.26	1.11	1.11
36 to 36.9 gravity	1.28	1.13	1.13
37 to 37.9 gravity	1.30	1.15	1.15
38 and above	1.32	1.17	1.17

*Grayburg Pipe Line Co. only.

Note: Luling and Corsicana heavy posted by the Magnolia Pipe Line Co. and Grayburg Pipe Line Co. Rockdale-Minerva by Kent-Middleton Refining Co. Calliham (Live Oak and McMullen Counties) by Dependable Oil Co. Mirando (Webb, Jim Hogg and Zapata Counties) by Texpata Pipe Line Co., Magnolia Pipe Line Co., Humble Oil & Refining Co. and the Crown Central Pipe Line Co. Somerset posted by Grayburg Pipe Line Co., Pioneer Oil Refining Co. and Witherspoon Refining Co.

WEST TEXAS

Iatan, including Howard and Westbrook Fields.

Magnolia was paying 60 cents for Howard crude, except Chalk crude, on January 1. Chalk crude was then posted at 80 cents. The balance of Iatan was posted at 93 cents.

Crane, Upton, Pecos and Crockett, Winkler, Howard, Texas, and Lea, New Mexico—	Jan. 1	May 20
Below 25 gravity	.65	.70
25-25.9 gravity	.65	.74
26-26.9 gravity	.65	.78
27-27.9 gravity	.65	.82
28-28.9 gravity	.65	.86
29-29.9 gravity	.65	.90
30-30.9 gravity	.65	.94
31-31.9 gravity	.65	.98
32-32.9 gravity	.65	1.02
33-33.9 gravity	.65	1.06
34-34.9 gravity	.65	1.10
35-35.9 gravity	.65	1.14
36 and above	.65	1.18

Posted by Humble Oil & Refining Co., Kay County Gas Co., Gulf Refining Co. and Magnolia Petroleum Co.

TEXAS PANHANDLE

Posted by Humble Oil & Refining Co. and Magnolia Petroleum Co.

Gray County—	Jan. 1	Jan. 24	May 20
Below 27 gravity	.68	.69	.90
27 to 27.9 gravity	.68	.69	.90
28 to 28.9 gravity	.68	.69	.90
29 to 29.9 gravity	.75	.75	.95
30 to 30.9 gravity	.82	.81	1.00
31 to 31.9 gravity	.89	.87	1.05
32 to 32.9 gravity	.96	.93	1.10
33 to 33.9 gravity	1.01	.96	1.15
34 to 34.9 gravity	1.06	.99	1.20
35 to 35.9 gravity	1.11	1.02	1.25
36 to 36.9 gravity	1.16	1.05	1.30
37 to 37.9 gravity	1.21	1.08	1.35
38 to 38.9 gravity	1.26	1.11	1.40
39 to 39.9 gravity	1.31	1.14	1.45
40 to 40.9 gravity	1.36	1.17	1.50
41 to 41.9 gravity	1.41	1.20	1.55
42 to 42.9 gravity	1.46	1.23	1.60
43 to 43.9 gravity	1.51	1.26	1.65
44 gravity and above	1.56	1.29	1.70

Posted by Humble Oil & Refining Co. and Magnolia Petroleum Co.

Carson and Hutchinson Counties—	Jan. 1	Jan. 24	May 20
Below 31 gravity	.69	.72	.90
31 to 31.9 gravity	.69	.72	.90
32 to 32.9 gravity	.76	.78	.95
33 to 33.9 gravity	.81	.81	1.00
34 to 34.9 gravity	.86	.84	1.05
35 to 35.9 gravity	.91	.87	1.10
36 to 36.9 gravity	.96	.90	1.15
37 to 37.9 gravity	1.01	.93	1.20
38 to 38.9 gravity	1.06	.96	1.25
39 to 39.9 gravity	1.11	.99	1.30
40 to 40.9 gravity	1.16	1.02	1.35
41 to 41.9 gravity	1.21	1.05	1.40
42 to 42.9 gravity	1.26	1.08	1.45
43 to 43.9 gravity	1.31	1.11	1.50
44 gravity and above	1.36	1.14	1.55

Humble Oil & Refining Co. and Magnolia Petroleum Co.

Wheeler County—	Jan. 1	Jan. 24	May 20
Below 29 gravity	.65	.70	.90
29 to 29.9 gravity	.65	.70	.90
30 to 30.9 gravity	.72	.76	.95
31 to 31.9 gravity	.79	.82	1.00
32 to 32.9 gravity	.86	.88	1.05
33 to 33.9 gravity	.91	.91	1.10
34 to 34.9 gravity	.96	.94	1.15
35 to 35.9 gravity	1.01	.97	1.20
36 to 36.9 gravity	1.06	1.00	1.25

(Continued on Next Page)

EASTERN STATES

Joseph Seep Pur hasing Agency

	Jan. 1	Jan. 4	Jan. 25	Jan. 29	Feb. 15	Mar. 2	Apr. 27	May 22	July 1
Pennsylvania grade oil in N. Y. Transit Lines (N. Y.)	3.85	4.10	...	...	...	...	...	...	4.05
Bradford Oil in National Transit Lines (Pa.)	3.85	4.10	...	...	...	...	...	...	4.05
Pennsylvania grade oil in National Transit Lines (Pa.)	3.75	4.00	...	...	...	...	...	...	4.05
Pennsylvania grade oil in Southwest Pa. Lines (W. Va.)	3.75	4.00	...	...	...	...	...	...	...
Pennsylvania grade oil in Eureka Lines (Pa.)	3.65	3.90	...	...	...	...	...	...	...
Pennsylvania grade oil in Buckeye Lines (Ohio)	3.60	3.85	...	...	...	...	...	...	...
Cabell grade oil in Eureka Lines (W. Va.)	1.45	1.55	...	...	...	1.45	1.60	1.75	...
Corning 25-cent grade oil in Buckeye Lines (Ohio)	1.90	...	1.80	...	...	...	...	1.90	...
Corning 35-cent grade oil in Buckeye Lines (Ohio)	1.80	..	1.70	...	...	...	...	1.80	...
Somerset in Cumberland Lines (Ky.)	1.75	...	...	...	1.60	1.50	1.65	1.80	...
Ragland grade oil in Cumberland Lines (Ky.)	.95	...	...	.60	...	...	...	...	...

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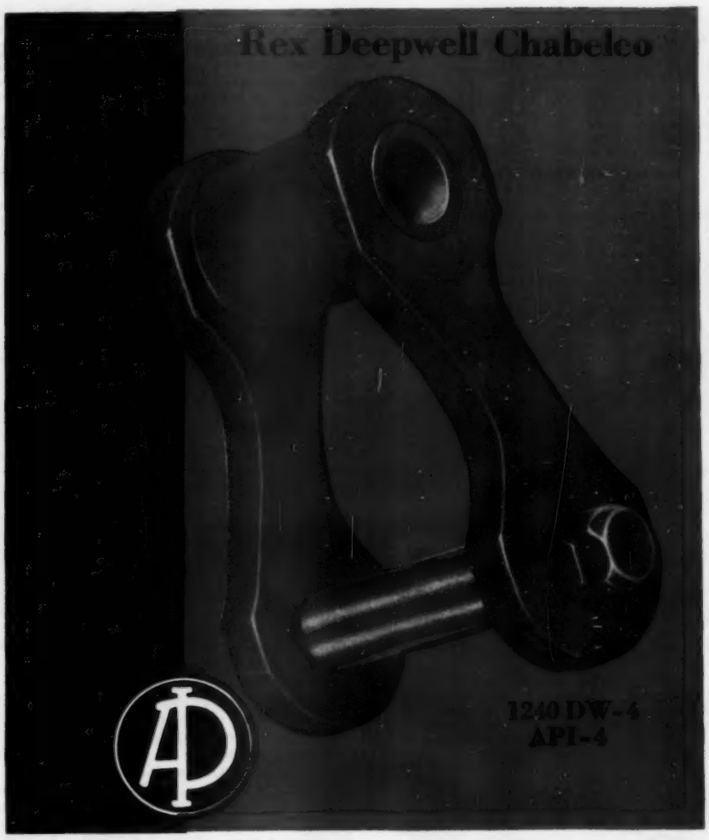

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Reg. U. S. Pat. Office

CRUDE PRICE CHANGES

(Continued from Preceding Page)

37 to 37.9 gravity	1.11	1.03	1.30
38 to 38.9 gravity	1.16	1.06	1.35
39 to 39.9 gravity	1.21	1.09	1.40
40 to 40.9 gravity	1.26	1.12	1.45
41 to 41.9 gravity	1.31	1.15	1.50
42 to 42.9 gravity	1.36	1.18	1.55
43 to 43.9 gravity	1.41	1.21	1.60
44 gravity and above	1.46	1.24	1.65

ROCKY MOUNTAIN FIELDS

	Jan. 1	Jan. 25	May 21
Salt Creek—			
29 to 29.9 gravity	.95	.90	1.10
30 to 30.9 gravity	1.02	.96	1.15
31 to 31.9 gravity	1.09	1.02	1.20
32 to 32.9 gravity	1.16	1.08	1.25
33 to 33.9 gravity	1.21	1.11	1.30
34 to 34.9 gravity	1.26	1.14	1.35
35 to 35.9 gravity	1.31	1.17	1.40
36 to 36.9 gravity	1.36	1.20	1.45
37 and above	1.41	1.23	1.50
Rock Creek (Wyo)	1.33	1.18	1.40
Big Muddy	1.33	1.28	1.43
Mule Creek	1.10	...	1.20
Grass Creek, light	1.48	1.36	1.65
Grass Creek, heavy	.90	...	...
Elk Basin	1.48	1.36	1.65
Lance Creek	1.48	1.38	1.68
Poison Spider	1.00	...	...
Notches	.65	...	...
Rex Lake	1.10	...	...
Osage	1.48	1.38	1.65
Lost Soldier	.95	...	1.05
Greybull-Torchlight	1.48	...	1.65
Hamilton Dome	.85	...	...
Cat Creek (Mont.)	1.48	...	...
Sunburst	1.65	...	1.75
Artesia (N. Mex.)	1.08	...	...
Hogback	1.48	...	1.70

Note: Rock Creek, Big Muddy, Mule Creek, Grass Creek light and heavy, Elk Basin, Lance Creek, Rex Lake, Sunburst and Artesia posted by Ohio Oil Co.; all others and Grass Creek light posted by Midwest Refining Co.

GULF COAST

Jennings—On January 1 the Gulf Pipe Line Co. was paying $1.05. No change.

Saratoga, Batson and Dayton—On January 1 the Sun Pipe Line Co. was paying $1.20. No change.

	Jan. 1	Jan. 26	May 20
Grade A	1.20	...	1.30
Grade B*	1.15	1.05	1.15
Gulf Coast light*:			
Below 25 gravity	1.15	1.05	1.15
25 to 25.9 gravity	1.17	1.07	1.18
26 to 26.9 gravity	1.19	1 09	1 21
27 to 27.9 gravity	1.21	1.11	1.24
28 to 28.9 gravity	1.23	1.13	1.27
29 to 29.9 gravity	1.25	1.15	1.30
30 to 30.9 gravity	1.27	1.17	1.33
31 to 31.9 gravity	1.29	1.19	1.36
32 to 32.9 gravity	1.31	1.21	1.39
33 to 33.9 gravity	1.33	1.23	1.42
34 to 34.9 gravity	1.35	1.25	1.45
35 to 35.9 gravity	1.37	1.27	1.48
36 to 36.9 gravity	1.39	1.29	1.48
37 to 37.9 gravity	1.41	1.31	1.48
38 to 38.9 gravity	1.43	1.33	1.48
39 to 39.9 gravity	1.45	1.35	1.48
40 and above gravity	1.47	1.37	1.48

Note—Gulf Coast includes Goose Creek, Hull, Liberty, West Columbia, Orange, Boling, Sour Lake, Humble, High Island, Pierce Junction and Spindletop Fields.

Grade A posted by Humble Oil Refining Co. and other major buyers.

*Grade B posted at flat price by The Texas Company. All other companies as Humble Oil & Refining Co., Gulf Pipe Line Co., Sun Pipe Line Co. and Magnolia Petroleum Co. (in Spindletop only) post Grade B crude on the same schedule as Gulf Coast light except do not differentiate price on gravities above 35. Oil 35 and above is posted at same price as 35 to 35.9 grade.

CANADIAN FIELDS
Imperial Oil Co., Ltd.

	Jan. 1	Jan. 26	Apr. 26	May 21
Oil Springs	2.07	1.97	2.12	2.27
Petrolia	2.00	1.90	2.05	2.20

OUTLETS ON EXPORTS CONTINUE TO EXPAND

(Continued from Page 175)

mand balance will return ultimately and the market might be seriously broken."

A delegation of leading American oil company executives, including several well posted on export marketing problems, is at present in Europe for a first-hand study of the European oil situation, with particular reference to further action by the Export Petroleum Association in the establishment and maintenance of an export price basis for gasoline.

California Strong Factor

California has developed further as a factor in export markets, not only in the Far East and other world markets normally served from the Pacific Coast, but in European markets as well. At several times during the first half of the year, with East Coast and Gulf refiners figuring on specific export inquiries, California refiners have come into the picture and booked the business while the refiners who normally would have handled the sale have still been endeavoring to arrive at a price. California refiners are plentifully supplied with gasoline, and have shown willingness to make the necessary freight adjustments to clinch some of the European business.

Pacific Coast gasoline has developed more of a demand in Europe this year, following the shipment of several cargoes of high-test California fuel to Great Britain and France. European markets are normally consumers of high-test fuels and the California gasoline, with its natural antiknock properties, has met with instant favor in foreign markets. A number of English and Continental oil companies, it is understood, have been buying California gasoline to blend with other types of gasoline in the production of premium grades of motor fuel.

As far as is generally known, the export association has not yet progressed to the point in its organization where it is directly handling and apportioning export inquiries, and until the group's control of export marketing operations reaches this point, it is expected that California refiners will continue important factors in the European gasoline situation, and that competition from the Pacific Coast will have to be figured on by eastern and Gulf Coast refiners when submitting prices on export inquiries.

England Heavy Buyer

With prices for American gasoline still extremely low, Great Britain has continued a heavy buyer during the first half of the year, notwithstanding the larger imports of Russian petrol into Great Britain. Many of the British refining companies continue to keep their refineries shut down, or at best operating at but a small part of capacity, finding it more profitable and economical to buy American gasoline in the open market than to buy and refine their own crude oil.

Another factor which has made for heavy British buying of American gasoline thus far in the year has been the extremely low market for tanker tonnage during the greater part of the period. At times, notably during the first three months of the year, tanker rates on clean tonnage from the Gulf to Great Britain were at such a low point that tanker owners found it impossible to operate without sustaining losses, and considerable tankage was laid up as a result. Other owners were willing to keep their tankers in commission on condition that the rates offered them were sufficient to pay operating and maintenance charges, and in consequence, British buyers were often in position to lay down gasoline at British ports at extremely low prices.

Divide World Markets

Royal Dutch-Shell and Anglo-Persian Oil Co., the latter dominated by the British government, have entered into an agreement on foreign marketing operations, and have organized a subsidiary company to handle export sales of gasoline and other petroleum products. This company has divided world markets in an effort to effect as many economies as possible in the world marketing operations of the various Royal Dutch-Shell and Anglo-Persian subsidiary companies.

In some quarters of the trade, the opinion is held that the Export Petroleum Association, organized by American oil interests, may later arrive at an understanding with the British-Dutch company of foreign markets, and that the two combines will work harmoniously in bine on the matter of the proportioning eliminating many of the uneconomic phases of export marketing operations which exist at present. This report, however, thus far lacks official confirmation on the part of either group.

South American Refineries

South American refined petroleum products are expected to assume a more important place in the world picture by the close of the current year, and competition from this source is already beginning to be felt in some markets, notably large South American markets normally supplied by East Coast or Gulf refineries. Pan American's new refinery at Aruba, now in partial operation, will be an important factor in gasoline, kerosene, fuel oil and other products, when finally completed, and Royal Dutch-Shell are adding to the capacity of their refineries located in the Dutch West Indies and at other points in South America. In addition, a number of other refinery projects are under way in South America. While most of the latter are small, they account for a fair production of refined products, in the aggregate, and illustrate the growing tendency to refine South American crude closer to the sources of supply, rather than shipping it to the United States for treating.

Kerosene

Heavier competition from Russia and other sources have tended to cut into American export trade in illuminating oil, and sales for shipment abroad during the first six months of the year were smaller than those of the comparable period last year. American refiners have been on the qui vive in maintaining their export markets, but had looked for some falling-off in volume, being unable to meet the price competition offered by the Russian product in some markets. While final figures for the full six months period are not yet available, it is probable that the statistics, when compiled, will show a decline of 10 per cent or more under the comparable period in 1928.

Export operators early in the year established prime white kerosene at 7 cents per gallon, bulk, at the Gulf, with water white at 1 cent per gallon over this year. During the early spring season, under sustained domestic buying and better export inquiry, the market strengthened, and was marked up three-quarters of a cent per gallon on both grades. At midyear, however, with a seasonal slump in domestic demand and a quiet export market, prices were dropped three-quarters cent to the original basis of 7 cents for prime and 8 cents for water white.

Refiners have withdrawn all quotations on cased kerosene from the open market, although it is indicated that a fairly heavy volume of business is still being booked on these grades, and that prices are following the bulk market rather closely. In the cased kerosene fields, it is more or less a question of brands, and it is believed that open-market quotations were withdrawn on these products to avoid any conflict with the basis named on bulk stocks by the export association.

Russian competition was an important factor in several principal world markets, notably the East. Sales of Russian burning oil have made heavy inroads into American gallonage in China, and other sections of the East, where the American product formerly ruled supreme, are also feeling the effects of the competition from the Soviet oil trust. In addition to Eastern markets, Russian burning oil is coming in for wider consumption in Great Britain and on the Continent. The Soviet oil trust is conducting an aggressive selling campaign in markets where it comes into competition with American kerosene, and it appears that much of the business is being obtained on a price basis, although some foreign markets appear to prefer the Russian product.

Lubricating Oil

Sales of lubricating oils in foreign markets during the first half of the year have lagged a little behind those during the comparable period in 1928, although the volume lost has not been very considerable. Slack export demand for both cylinder stocks and red and pale oils ruled during the first quarter of the year, but with the start of the second quarter, the demand picked up materially. During the second quarter of 1929, however, cylinder oil prices scored a sensational advance, reaching the highest levels attained since the close of the war boom, and this advance naturally tended to slacken foreign buying. In some quarters of the trade, the belief is expressed that the volume of foreign buying held back during late May and June, as a result of the extremely high prices then prevailing, would be sufficient to make up during the closing six months of 1929 for the slight loss in export volume in the first half of the year.

England has continued a heavy buyer of American lub oils, with France, Spain, South America, and South Africa also ranking well up among the principal customers of American refiners for this product.

Paraffin Wax

Export volume on American paraffin wax in the first half of 1929 has proved very disappointing to the American trade. Preliminary reports indicate that volume for the six months has shown a decline of more than 15 per cent, with the outlook for the second half indicating that this volume will not be made up by the close of the year.

High prices for American wax, together with the accumulation of heavy stocks by European consumers during the closing weeks of 1928, were factors in making for a lighter demand for the American product this year. In addition, foreign markets normally drawing their wax supplies from the United States found it possible in many cases to obtain stocks from other producing countries this year at better prices than those offered by sellers in this country.

Fuel and Gas Oils

Notwithstanding low prices quoted for fuel and gas oils in American markets during the first half of the year, the volume of foreign buying of these oils has shown a sharp decline, being off 30 per cent or more for the first six months of 1929.

Refiners have not been pressing these oils for sale in export markets, however, realizing that such tactics will not tend to stimulate demand, but might rather react further against the price basis on these products. A little export business on fuel oil has been developed with Canada this year, and it is indicated that American operators will pay more attention to this market during the coming winter season.

The Outlook

The outlook for petroleum export markets during the closing half of 1929 is rather a mixed one at the moment, and there are few operators in the industry here who would care to hazard a guess on the outcome. It is generally conceded that the activities of the export association will be the guiding factor in the market during the second half of the year, and because of this, opinions regarding future business in foreign markets are rather optimistic. However, it is realized that, while the export association has already made considerable progress in its organization work, there is still much ground to be covered before the co-operative export group begins functioning smoothly in its final form. It is expected that by the end of the year, however, sufficient progress will have been made in this direction to make feasible the inclusion of the industry as a whole in the ranks of the export group. Such a broadening of the facilities and functions of the co-operative export association was announced as one of the prime objects of the founders of this group.

Gasoline sales during the closing half of the year are expected to keep pace with those during the first six months of the period, and operators believe that final figures for the year will show that the 10 per cent increase in volume scored during the first half will have been more than maintained.

Kerosene, however, is more of a debatable proposition, and it is regarded as doubtful that the volume during the last six months of 1929 will be sufficient to overcome the ground lost during the first six months of the year.

Lubricating oil sales are expected to show improvement during the second half of the year, and operators appear to believe that total volume for the year will not be far behind that chalked up for 1928. A number of export distributors, it is pointed out, are carrying much smaller than their usual stocks for this season of the year, which indicates the need for much replacement buying within the next few months.

Paraffin wax in export markets has been a rather sluggish proposition thus far in the year, and little improvement is looked for during the last six months of 1929. Prices, however, are expected to do a little better in the second half than was the case during the first.

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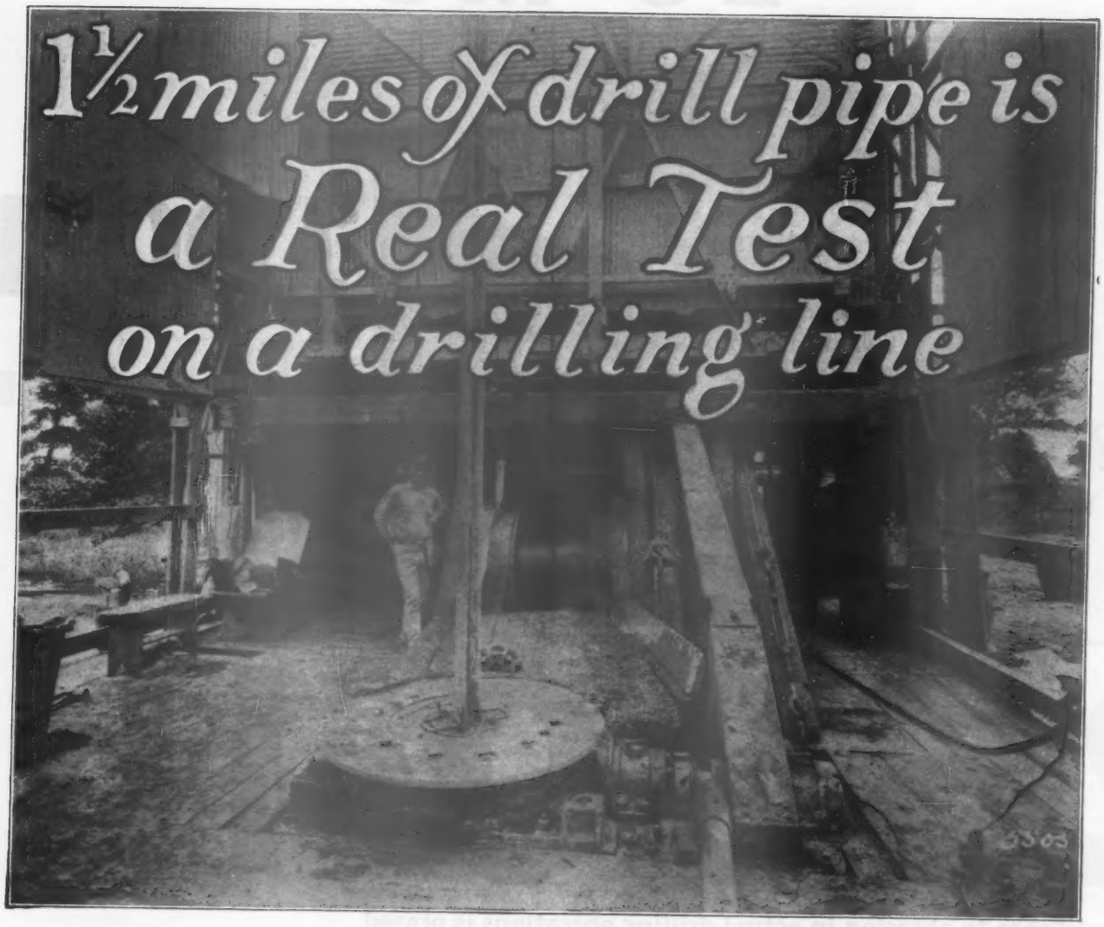

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Oil Securities in First Half of Year

Many Refining Units and Large Integrated Companies Show Recovery in Earning Power. Stock Market Disappoints

By A. E. Mockler
New York Bureau, The Oil and Gas Journal

NEW YORK, July 23. — While many companies in the petroleum industry, notably the refining units and the large integrated companies, demonstrated a marked recovery in earning power during the first half of 1929, this change was not fully reflected in the market movements of the securities of companies in the petroleum field as a whole. In a number of instances, prices of stocks of various oil companies showed a strong surge upward in the first half of the year, but this was not general.

While there have been indications several times that the long-awaited "oil market" was about to develop, some unfavorable factor has always arisen to curb a rise in the oils. For a time in the late spring, there was a sustained upward movement in petroleum securities. Pool operations in a few selected issues led in the rise, and the rank and file of the oil stocks also fell in line. A sharp rise in call money, accompanied by a tightening of the general credit structure, effectually barred any real advance in the oils as a group, however, and the market in general sold off. Several subsequent attempts to get the oils moving were checked by unfavorable developments within the industry—first, the adverse ruling of the Attorney-General on the proposal for production curtailment, and later by several successive rises in domestic production totals to new high records for all time.

As the second half of the year gets under way, it is more clearly evident than ever before that the market for petroleum securities is still a selective and "long pull" affair at best. There are certain issues, fundamentally strong, which are at present selling under their real worth; others are due for higher prices by virtue of the pool support backing them. In the general market list, however, there is considerable weakness shown, traceable in some measure to lack of confidence on the part of the investing and speculating public in the current position of oils. Without this confidence on the part of the public, experience has repeatedly shown, no amount of professional operations is sufficient to put the market up and keep it up. As a matter of fact, with a few exceptions, the market for the oils at the moment is remarkably free from either long or short interests of any great moment.

Removed Consolidations

There are numerous reports in circulation in financial circles concerning possible and probable consolidations within the oil industry, and it is believed that before the year is out a number of these rumored consolidations will be realized. One such rumor, which is now two years or more old, but still widely circulated, deals with a probable bringing together of the Sinclair Consolidated Oil Corp. and the Prairie Oil & Gas Co. The Marland-Continental Oil merger, rumored at the start of the year, has since been consummated. One current report now has it that the Tide Water Associated Oil Co. will form the nucleus of a new consolidation involving the merger of Tide Water Associated with the new Continental Oil Co., formed by the Continental-Marland merger. This deal, it is reported, has Morgan backing and contemplates the creation of a new independent company comparable in size to The Texas Corporation. Other rumors have linked Richfield Oil Co. of California with several large integrated companies, have mentioned the possibility of Atlantic Refining and Union Oil of California going together, and any number of mergers affecting independent eastern companies. Another report, mentioned in some quarters, deals with the possible acquisition of the Sun Oil Co. by Standard Oil Co. of New Jersey, through consolidation between the Beacon Oil Co., a subsidiary of the New Jersey company, and the Sun Oil Co. A number of consolidations among the smaller companies are also spoken of, notably a merger between the Paragon Refining Co. and the Valvoline Oil Co.

The "rumor market" also insists that negotiations looking to a probable consolidation between the Standard Oil Co. of New York and the Vacuum Oil Co. are still in progress.

While a number of the rumored pending consolidations are undoubtedly based upon nothing more substantial than hearsay, there is no doubt but that many interests in the oil industry are convinced that the best interests of the trade, and consequently oil company stockholders, will be served by the bringing together of many companies now operating independently, with resultant economies in operation. In addition, it is felt that the creation of additional strong groups within the industry will aid in the conservation movement and thus tend to effect the stability which is so sadly lacking in some branches of the oil trade at present.

Earning Capacity

The Standard Oil companies, as a group, have greater strength, perhaps, than the remainder of the oil securities group. This is responsible in a large measure to the demonstrated earning capacity of the Standard group, as shown by its record-breaking cash disbursement during the first half of the year, at a time when most of the industry has been experiencing difficulty owing to the continued overproduction of crude oil.

Cash dividend disbursements by the Standard Oil group of companies during the first six months of 1929 established a new high record for all time, at $129,149,578 for the period. The dividend payments during the second quarter were the largest on record for any single quarter, amounting to $66,047,877. This amount exceeds payments in the first quarter by approximately $3,000,000 and the new record during the second quarter was accomplished in the face of the fact that Standard Oil Co. of Indiana's dividends during that quarter were $6,963,500 less than in the first quarter. This company paid out $8,704,376 as the regular dividend of 62½ cents a share compared with $15,667,877 in the first quarter when an extra dividend of 50 cents was paid along with the regular dividend. This decrease during the second quarter was offset in part by a distribution of $3,100,000 of New York Transit Co. in connection with the readjustment of its capital structure, and which entailed a special cash dividend of $62 a share. Standard Oil Co. of New Jersey's payments were $3,094,371 greater in the second quarter as a result of an increase in the extra dividend from 12½ cents a share to 25 cents a share. Semiannual dividends of Illinois Pipe Line Co. and Anglo-American Oil Co. increases the total figure $2,000,000 and $1,525,000 respectively. The total amount paid out in dividends by the Standard group during the first six months was greafer than the dividends disbursed during the entire year 1922 and previous full years in the group's history.

Standard Securities

The record of quarterly cash disbursements of this group since the dissolution in 1911, as compiled by Carl H. Pforzheimer & Co., of New York, specialists in Standard Oil securities, is as follows:

	First quarter	Second quarter	Third quarter	Fourth quarter	Totals
1929	*$63,101,701	$66,047,877	.....	.....	.....
1928	48,927,670	57,694,206	$50,068,102	$62,050,357	$218,740,335
1927	55,873,413	54,291,615	47,728,440	55,724,472	213,617,940
1926	40,580,317	¶50,618,451	46,427,278	62,685,548	200,327,594
1925	34,355,618	41,905,728	35,140,584	42,104,169	135,506,099
1924	34,975,867	40,699,592	34,712,810	40,000,286	150,388,535
1923	33,499,988	36,311,251	31,066,251	27,545,805	128,423,295
1922	28,206,068	29,205,349	28,628,099*	§43,090,349	129,039,865
1921	28,987,611	29,131,727	27,609,227	29,586,727	115,294,292
1920	26,796,606	27,313,396	29,804,557	31,861,824	115,776,793
1919	26,759,502	26,397,119	24,418,169	28,326,687	105,901,477
1918	26,483,747	26,759,002	26,204,915	24,035,252	103,480,916
1917	23,097,668	26,428,252	22,968,751	27,463,252	99,957,923
1916	22,179,085	‡30,406,454	21,980,168	24,062,168	98,627,875
1915	15,241,966	14,368,636	15,891,976	16,898,636	62,401,204
1914	17,904,636	16,426,306	14,430,626	14,931,306	62,692,884
1913	†55,652,423	15,552,096	15,213,746	21,377,096	107,795,361
1912	10,220,396	11,983,746	13,190,396	16,392,096	51,686,634

*Revised. †Includes $39,235,352 disbursed by Standard Oil Co. of New Jersey from repayment of loans to former subsidiaries. ‡Includes $6,613,786 disbursed by National Transit Co. in adjustment of capitalization. §Includes aggregate extra disbursements of $11,600,000 by four eastern pipe line companies. ¶Includes $4,000,000 paid by Southern Pipe Line Co. in partial liquidation.

A number of independent refining companies, including most of the large independent integrated companies, have made favorable earning showings thus far in the year, and in several instances, dividend disbursements have been increased. Further improvement in this direction is anticipated during the second half of the year, the largest earnings of the refining and marketing groups normally being shown during this period.

Position of Producers

The position of the companies limiting themselves strictly to crude oil production has been improved a little by advances in crude oil prices this year, but current prices for crude are still too low in many sections of the country to show such companies much operating revenue, and there is nothing in sight at the moment to indicate any turn for the better in this connection. On the contrary, with production records rising from week to week, the market outlook for the producing companies during the second half of 1929 would appear to be distinctly bearish in most instances.

Pipe line securities, as a group, have shown strength during the first half of the year, and earnings of several of the companies have shown improvement over the first six months of 1928. The possibility of an increased movement of South American crude oil to interior refineries in the United States, via pipe lines, and the actual increase of such movement have attracted attention to the possibilities for the lines advantageously situated to handle this traffic. Considerable interest has also been shown in experiments by Standard Oil Co. of New Jersey to demonstrate the practicability of utilizing otherwise inactive pipe lines for the movement of gasoline from refineries to interior distributing markets.

Several of the eastern pipe line companies, however, have continued the move-

(Continued on Page 264)

STEEL MAKES REMARKABLE RECORD OF PRODUCTION IN PAST SIX MONTHS

By B. E. V. Luty

As a result of unusual activity in automobile manufacture, fabricated structural steel construction, the laying of natural gas and oil lines, and the production of agricultural implements, including tractors, combined with well sustained general consumption, steel made a remarkable record in the first half of 1929. The relative activity is indicated by production of steel ingots, as follows in gross tons:

	First Half	Second Half
1926	24,154,000	22,782,000
1927	24,016,000	22,782,000
1928	25,025,000	25,300,000
1929	29,125,000	.....

From 1923 to the middle of 1928 the general trend in steel production had been to increase about 3 per cent per annum, but the first half of 1929 was 16 per cent above the first half of 1928. Allowing for the usual seasonal swing, which on an average makes the second half of a year something like 10 per cent under the first half, the sharp increase occurred at the middle of 1928, for the second half of that year showed a small gain over the first half.

The four specific gains referred to began at about the middle of 1928, but were accentuated in the first half of 1929. Beginning about May 1, 1928, there was a run of five months of exceptionally heavy lettings of fabricated structural steel jobs, in bridges, buildings, subway work, etc. Then, after a relative lull, lettings became active again and ran particularly after March 1, 1929.

Automobile manufacture has followed a curious course. Production of Ford Model T ceased at the end of May, 1927. Instead of other production being stimulated correspondingly, it ran rather light. Then as production of the new Ford Model A began to grow really heavy about the middle of 1928, demand for other cars also increased. On account of changes occurring approximately at the middle of 1927 and 1928, calendar year comparisons of automobile production are not illuminating. Comparing the calendar years 1923 and 1928, both record years, there was merely a gain of 10 per cent in the five years. Comparing years ended June 30, however, taking total production of cars and trucks in the United States and Canada, we have: 1926, 4,665,925; 1927, 4,224,705; 1928, 3,706,078; 1929, 5,680,000 approximately.

This is, while it took five years, 1923 to 1928, to make a new calendar year record by 10 per cent, it took only three years, from the year ended June 30, 1926 (record at the time for such a period), to the year ended June 30, 1929, to make a new record by 22 per cent.

In 1928 the automobile industry accounted for about 18 per cent of all the steel made. In the first half of 1929, although total steel production was much heavier, it accounted for about 23 per cent. In April the proportion was fully 25 per cent, while in June and July it is about 20 per cent. While there has been a decrease in automobile production from the peak rate of last April, it has not been more in point of percentage than

(Continued on Page 262)

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DETROIT

EIGHT NEW GULF COAST DOME FIELDS

(Continued from Page 144)

around 2,000 feet also was discovered but it has not proved out so far.

Sun Oil Co. has continued its steady development at Clay Creek, Washington County, and at one time obtained a potential output of better than 10,000 bbls. although the daily production has been held to between 2,000 and 3,000 bbls. The field was opened late in 1928 and since then 19 tests have been drilled of which nine were producers and one gas. Of particular interest was the proving of Clay Creek as a salt dome by one test drilling into the salt at 3,181 feet. For a time it was doubted whether Clay Creek was a dome or a structure field.

In this connection tests on five of the newer geophysical domes drilled into salt for the first time this year, thus checking the geophysical findings on these. These domes are Garden Island Bay, Plaquemine Parish, in the extreme southeastern tip of Louisiana, The Texas Company's first test being abandoned in salt at 2,117 feet; Bayou Des Glaise, Iberville Parish, Union Sulphur Co. drilling into salt to 3,709 feet; and Clay Creek, Lake Barre and Point Barre, previously mentioned.

Refugio's Development

Refugio, which on July 28 will be one year old, witnessed continued development of its oil sand. Although this field has been hampered considerably by salt water problems and the lack of a market outlet through pipe lines, it has been drilled steadily and late in June had a daily production of better than 4,200 bbls. net oil from 18 wells.

Production at Orchard, Fort Bend County, was extended from the northeast flank to the south side of the dome, a distance of 6,400 feet across the dome, by Gulf Production Co., which completed a wildcat, No. 18 Moore, flowing initially 800 bbls. of 33.1 gravity oil from a sand at 3,902 feet. No other tests have been made since then although one is drilling at this time.

Liberty Field's Regular Comeback

The Liberty Field came back into the limelight at almost regular intervals. A wildcat on the east flank, Empire Gas & Fuel Co.'s No. 2 Goggan, extended the flank field on the east 1,500 feet north, flowing 500 bbls. daily from sand at 3,424 feet. No further drilling has been done in that area as shortly afterward, high water shut down much of the field and prevented access. Another shallow sand pool was opened on top the dome by Navarro Oil Co.'s No. 1 Community which flowed initially at the rate of 300 bbls. daily at 1,717 feet, but as tests since then have been disappointing, the drilling boom which followed that discovery soon played out. Vacuum Oil Co. and The Texas Company went back into the northwest flank of the dome, which has been abandoned for nearly a year except for the discovery well, and drilled two more wells, Vacuum getting a small deep pumper, and The Texas Company a 1,300-bbl. well. The latter, No. 5 Green, is 500 feet north of the No. 1 Green, the discovery well, the only successful completion there despite the drilling of more than a dozen tests in that immediate vicinity.

The increase in operations in the Gulf Coast is indicated in a summary of the district which showed that 782 wells were completed or abandoned during the first six months, an increase of 68 over the preceding six months. A detailed report of these completions by fields and also by months follows:

GULF COAST
Texas
Completions by Fields, First Six Months in 1929

Field—	Comp.	Prod.	Dry	Gas
Barbers Hill	29	24,413	9	0
Batson	21	335	3	0
Big Creek	19	15,971	3	1
Blue Ridge	28	13,670	5	0
Boling	28	1,545	18	1
Clay Creek	17	11,805	7	1
Damon Mound	2	0	2	0
DeWalt	19	20,080	0	0
Goose Creek	9	830	1	0
High Island	7	1,085	3	0
Hull	29	8,160	7	1
Humble	18	20,005	0	0
Liberty	74	19,478	17	0
Markham	1	0	1	0
Nash	5	1,200	3	0
North Dayton	1	0	1	0
Orange	16	1,054	5	0
Orchard	2	800	1	0
Pierce Junction	50	33,204	10	2
Raccoon Bend	31	8,723	8	2
Saratoga	7	169	2	0
Sour Lake	9	127	1	0
Spindletop	72	33,465	16	0
West Columbia	1	250	0	0
Miscellaneous	92	6,858	72	3
Total	582	223,227	195	11

South Louisiana

Anse La Butte	2	0	2	0
Bayou Bouillon	10	2,550	7	0
Edgerly	13	1,500	3	0
Hackberry	49	13,217	18	0
Jennings	16	545	9	0
Lockport	14	4,025	4	1
Sorrento	3	0	3	0
Starks	6	80	5	0
Sulphur	15	8,000	10	0
Sweet Lake	1	80	0	0
Vinton	18	4,067	6	0
Miscellaneous	52	931	43	2
Total	200	34,995	111	3
Total Gulf Coast	782	258,222	306	14
First 6 mo. 1928	706	226,981	305	7
Difference	74	31,241	1	7

Completions by Months

Month—	Comp.	Prod.	Dry	Gas
January	126	45,897	44	1
February	99	36,200	37	1
March	140	36,440	63	5
April	155	57,976	60	3
May	127	34,842	46	2
June	135	46,867	56	2
Total	782	258,222	306	14

KENTUCKY ACTIVE BUT TENNESSEE FALLS OFF

(Continued from Page 144)

bring about much wildcatting in hope of opening up new pools, as the Kentucky fields are pools usually covering a few miles of territory.

A greater number of wells were drilled in Kentucky during the first half of 1929 than in the first half of 1928, but the production is not so large, as the Ambrose Pool developed in 1928 proved a wonder and covers a vast area. There were 15 more completions for the first six months of 1929 than for the same period in 1928, the initial production being 3,734 bbls. less, while there were 3 more dry holes and 19 more gas wells. There were 385 oil producers drilled during the six months of 1929, seven less than in 1928 for the same period.

Caldwell County to the southwest of the Tri-County Field is another area that is attracting attention. Barren County has done very little in the way of drilling so far this year while in 1928 a great number of wells were drilled in the county.

Kentucky Field

The completions in the Kentucky Field during the first half of 1929 were recorded each month as follows:

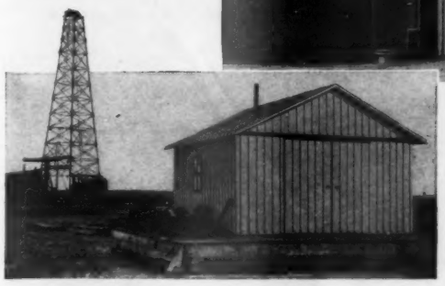
Month—	Comp.	Prod.	Dry	Gas
January	108	1,446	45	2
February	113	2,032	42	7
March	86	3,483	32	6
April	94	2,240	28	4
May	115	3,768	37	6
June	100	3,666	24	3
First half 1929	616	16,635	198	32
First half 1928	601	19,369	195	14
Difference	15	3,734	3	19

The above wells were distributed among the various counties and districts as follows:

County—	Comp.	Prod.	Dry	Gas
Warren	16	22	6	2
Allen	28	45	17	0
Barren	6	35	2	0
Ohio	257	10,699	61	11
Daviess	193	4,059	74	4
Hancock	15	42	7	5
McLean	4	23	2	0
Henderson	6	97	0	0
Webster	5	33	0	1
Muhlenburg	2	200	1	0
Breckenridge	2	15	1	0
Hopkins	4	0	3	1
Christian	1	10	0	0
Wayne	15	18	10	0
Powell	1	6	0	0
Estill	20	40	5	0
Lee-Owsley	6	20	1	2
Johnson-Magoffin	16	160	2	0
Lawrence-Johnson	2	15	0	1
Clay	3	0	1	2
Hardin	2	0	2	0
Knox	1	0	1	0
Rowan	1	0	0	1
Simpson	1	0	1	0
Trigg	1	0	0	1
Menifee	1	6	0	0

(Continued on Next Page)

Steel



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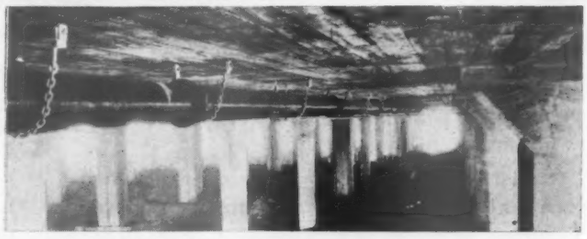

8" Victaulic coupled raised end cast iron pipe line swings from ceiling and supplies water to fire hydrants on floor above.

6" Victaulic coupled cast iron pipe line supplying salt water to the outdoor plunge, New Biltmore Hotel, Santa Barbara, California.

PIPE RECLAIMED
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The Victaulic method enables pipe line operators to place into service lengths of pipe which would otherwise be nothing more than junk. There are no costly re-threading operations. Simply cut the threaded end and groove it automatically for Victaulic Couplings. Simple, speedy, economical.

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HOUSTON FORT WORTH SHREVEPORT LOS ANGELES

Floyd	1	0	0	1
Wolfe	3	25	0	0
Cumberland	1	0	1	0
Caldwell	1	15	0	0
Pike	1	0	0	1
Total	616	15,635	198	33

Tennessee

Little has been done in the Tennessee fields during the past six months as the operators have been doing development work in the western Kentucky area and as long as they find commercial wells in the shallow fields there will leave the Tennessee end for future development.

The wells completed the first six months of 1929 in the Tennessee Field were by months as follows:

Month—	Comp.	Prod.	Dry	Gas
January	1	0	1	0
February	3	60	1	0
March	2	60	0	0
First half 1929	6	120	2	0
First half 1928	50	1,988	17	6
Difference	44	1,868	15	6

The above six wells were all completed in Clay County.

EQUITABLE RATE IS DISCUSSED BY ENGINEER

(Continued from Page 102)

cupied by the extremely wealthy for only a small portion of the total year.

"To charge a fixed amount for a customer charge which covers the necessary expenditures which each additional customer brings on the gas company is to make it possible to reduce the consumption charge, which in turn induces those uses of gas by the larger customers who can, if the rate is not right, supply themselves with other forms of service.

"In the various experiences that I have had with the installation of rates, it has been found that a continuation in the past 10 years of a straight meter rate yields from domestic consumers a constantly reducing revenue per consumer. This constantly reducing revenue comes from the fact the equipment now in use year by year is improving in effeciency and that the equipment does with less gas the same work. It comes from that fact that the baking of bread has in the last 10 years practically moved out of the homes in those towns that are equipped with gas service. It comes from the fact that a large portion of the meat now consumed in homes is baked wholesale either by canneries or by delicatessen stores or the people who supply the delicatessen stores. The cooking load is constantly going down—which is a change in the habits of the people—the efficiency of the equipment going up and the consumption for the same uses going down.

"It is our conclusion that no straight meter rates can be for any length of time continued in any gas company without recourse to the commission, because of the reduced consumption, for a higher rate, and that, if a higher straight meter rate is installed, it further speeds up the reduction in consumption; and that only by going to a customer charge form of rate, either open or concealed, with a low consumption charge which will induce other uses for gas which we have not hitherto developed, can gas companies continue in business and earn a fair return if they expect to continue to give the type of service to which the public is now used."

UNEVENTFUL HALF YEAR IN EAST CENTRAL TEXAS

(Continued from Page 162)

was drilling in at 4,850 feet. This part of Upshur County is looked upon as being one of the most favorable in East Central Texas. The test drilled into a formation at 3,986 feet, which showed oil but a drill stem test showed salt water.

C. F. Lytle and associates' Trinity sand test, No. 1 Thompson, at Mexia, Limestone County, met with further difficulties and at present is shut down with drill stem stuck at 6,068 feet. This promised one of the most interesting tests in East Central Texas in view of speculation as to possibilities of Trinity sand production. The test has made eight tests of the sand and shale at the present level and each time it has tested salt water.

Dome Test Failures

Attempts to find production on the Keechi and Bethel Domes of Anderson also met with failure. J. S. Cosden and associates drilled one test on the former dome but abandoned it with a junked hole. Pure Oil Co. abandoned one test, No. 2 Bruce, on the Bethel Dome when it went into salt, this being the second test to find the salt at that dome. Pure is making another attempt at present and is drilling below 4,400 feet in its No. 1 Jackson.

The past month also has witnessed the starting of another wildcat at the Posey Saling, also in Anderson County, on which there has been no drilling for several years. This is one of the oldest known prospects in East Central Texas, but on which every test so far has been disappointing.

Leasing plays this year have centered largely in Anderson County, although Smith, Van Zandt, Upshur and Cherokee Counties came in for their activity. Acreage between the Keechi, Bethel, Boggy Creek Domes of Anderson County and the Bullard Dome of Smith County, all of which lies in the same group, has been virtually all taken up.

Two wildcats were drilled on the latter dome since January, both of which were abandoned.

Falls County saw some interesting wildcatting, but this so far has been fruitless. Humble Oil & Refining Co. obtained a large block in the southwestern part of the county and drilled two tests, both of which were abandoned.

Powell Defined

An attempt was made by the Riverland Oil Co. and Tidal Oil Co. to extend the production of Powell, Navarro County, to the northwest, but this failed with the abandonment of No. 1 Finch, which tested salt water. A second test has been started by these operators, but this lies about 1,800 feet to the northeast of the first and about a quarter mile north of Powell.

Daily production of the division held fairly uniform through the six months ranging between 19,000 and 22,000 bbls. the entire time with few fluctuations. At the close of the six months period only 30 tests were actually drilling, with a large number of tests having been shut down particularly in the last two months.

A detailed summary of completions in the division follows:

EAST CENTRAL TEXAS

Completions by Fields, First 6 Months, 1929

County—	Comp.	Prod.	Abd.	Gas
Anderson	15	1,571	10	2
Angelina	3	0	3	0
Cherokee	6	930	4	0
Falls	7	0	7	0
Freestone	2	0	2	0
Henderson	1	0	1	0
Hill	2	13	1	0
Hood	1	0	1	0
Limestone	6	0	6	0
Leon	2	0	2	0
McLennan	1	0	1	0
Milam	4	0	4	0
Navarro	5	0	5	0
Nacogdoches	1	0	1	0
Rusk	3	0	3	0
Smith	2	0	2	0
Upshur	1	0	1	0
Van Zandt	4	0	4	0
Total	66	2,514	58	2
First 6 mos. 1928	33	335	30	0
Difference	33	2,279	28	2

Completions by Months

Month—	Comp.	Prod.	Abd.	Gas
January	10	0	10	0
February	8	1,450	7	0
March	12	580	9	1
April	11	0	10	1
May	9	21	8	0
June	16	463	14	0
Total	66	2,514	58	2

GAS LINES FEATURE PIPE LINE WORK

(Continued from Page 162)

and is drawing about 9,000 bbls. daily out of that field into the main line.

Illinois Increases Facilities

The Illinois Pipe Line Co.'s looped 8-inch serving the Yates Pool south to Del Rio and Lytle is now running to capacity, carrying around 50,000 bbls daily and giving a big outlet to this field. It carries mostly Mid-Kansas and Transcontinental Oil Co.'s production, Mid-

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THE ½" TO 2" POWER PIPE MACHINE SENSATION

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And now the ideal ½" to 2" portable, power pipe machine. Universal motor connects to a lamp socket. Rapid in operation, threading 2" pipe in 30 seconds, cutting it off in 15 seconds. Instant change of dies, and dies easily reground when dull.

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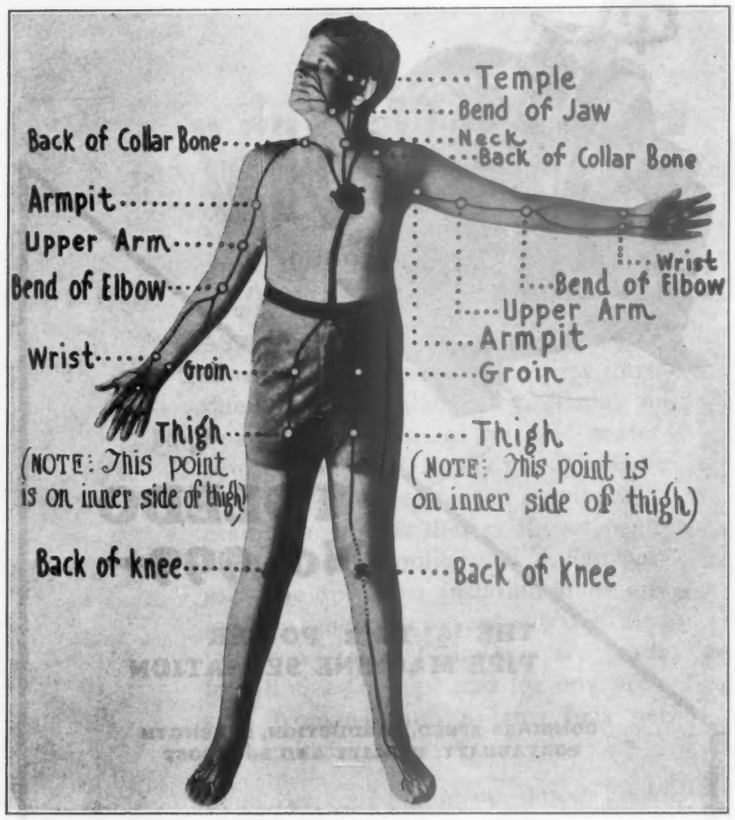

COURSE OF ARTERIES AND PRESSURE POINTS

Arterial bleeding can be controlled by applying pressure at any point shown which is between the wound and the heart. Pressure may be applied with fingers, tourniquet, compress or constricting bands, such as handkerchief, belt, strap, etc. Do not use wire, rope or cord.

NOTE—Pressure must be released every twenty minutes and the blood allowed to flow for a few seconds to prevent gangrene.

The above pressure point bulletin has been issued as a regular poster size bulletin and is also used as a most important illustration in the Rule and Problem Booklet to be used in connection with the Annual Petroleum First Aid Contest, which is sponsored each year by the Mid-Continent Oil & Gas Association as a feature attraction of the International Petroleum Exposition. From reports coming in from various member companies, it is believed the First Aid Contest this year will be the greatest ever held in this territory.

MID-CONTINENT OIL & GAS ASSOCIATION

(This space contributed by a member company)

Kansas Oil & Gas Co. being its affiliated company, but also carrying around 500 bbls. daily for the Grayburg Oil Co., which has a refinery in San Antonio with a small line running to the Humble Station at Lytle in Atascosa County from which station it picks up crude from the Illinois Pipe Line which runs into the Humble Station.

With trunk lines, out of West Texas, with a total daily capacity of around 400,000 bbls. daily at present, there will probably be no others built out of the district for some time, if at all, unless unforeseen gigantic fields are brought in. About all the lines which will be built in the next six months will be gathering lines, and at the present writing, it looks as if there would be a need for many miles of such lines to take care of new areas which are being opened.

Great Gas Systems Built

One line of major proportions completed and placed in service and construction of three others still larger begun, plus considerable activity on a smaller scale, places the first half of 1929 on record as the most active period in pipe line construction in the Louisiana-Arkansas division since the Homer, El Dorado and Smackover booms. Except for two short 4-inch lines from new production in Ouachita County, Arkansas, and Caddo Parish, Louisiana, all this activity was in gas lines. Construction of the three major lines, from the Monroe and Richland Fields to St. Louis, Mo., to Shreveport and to Birmingham, Ala., Atlanta, Ga., Chattanooga, Tenn., and other southeastern centers entails the expenditure of approximately $100,000,000 and they will have a daily capacity totaling approximately 350,000,000 feet per day.

The Mississippi Valley Fuel Corp.'s 22-inch line from the Louisiana fields to St. Louis was the first to begin actual construction and as this is written has 250 miles of right of way cleared, 172 miles of pipe strung and 76 miles in the ground with six crews working. It is designed to serve industrial consumers only in the St. Louis industrial area including St. Louis, East St. Louis, Alton and Granite City. Its length is approximately 460 miles and maximum capacity is around 150,000,000 feet per day.

Five booster stations, the first of which is 21 miles south of Pine Bluff, Ark., with the others spaced at 100-mile intervals, will shove the gas to St. Louis. The Glendale station south of Pine Bluff is about half completed. The others will be located at West Point, White County; Biggers, Randolph County; Fredericktown, Mo., and in the field. Eighteen compressor units with auxiliary equipment will be installed in each.

The line enters Arkansas at White, Ashley County, and extends almost due north to Pine Bluff crossing the Arkansas River on the Cotton Belt Railroad bridge 3 miles east of that point; thence it traverses the prairie country of eastern Arkansas crossing the Missouri state line between Success, Ark., and Poplar Bluff which it touches, and into St. Louis. It is a coupled line with small sections welded. The St. Louis river crossing section also is understood to be under construction.

Gulf Coast Pipe Lines

Outside of the trunk lines of the Texas Pipe Line Co. and the Shell Pipe Line Co. from West Texas to the Coast, the principal pipe line laid in the Gulf Coast was Humble Pipe Line Co.'s 10-inch line from the Luling and Bruner district to West Columbia. The latter is approximately 100 miles long and connects with the company's main line from West Columbia to Webster. Humble also laid an additional 10-inch line from Webster to the Baytown refinery of the Humble Oil & Refining Co., a distance of 19 miles.

Gulf Pipe Line Co. laid 25 miles of 8-inch line from Lynchburg to Dayton by way of the Barbers Hill Field. This line replaced another line between Lynchburg and Dayton which went by way of Crosby. The latter company's biggest project was the looping of its trunk line extending from North and West Texas to Lucas, 24 miles of which, from Sour Lake to Lucas, is in Gulf Coast territory. The Gulf Coast end of the Texas Pipe Line Co.'s West Texas trunk consists of 80 miles of 10-inch from Houston to Port Arthur.

Houston Pipe Line Co. put down 8 miles of 18-inch loop on its main Southwest Texas-Houston system between the Guadalupe River and the Clepa River at Victoria. The Dixie Gulf Gas Co., a Moody-Seagraves interest, connected Crosby with its main line from Waskom to Houston. This is a 4-inch line 7 miles long. The latter company also laid a line from its trunk system to take in the Barbers Hill Field, Liberty and Dayton, this line being approximately 35 miles long.

Murchison Oil Co. laid several small lines out of the Raccoon Bend Field of Austin County connecting with Bellville, Hempstead, Brenham and a few other towns of that vicinity.

Other smaller projects in the Gulf Coast included a mile long 6-inch line by the Humble Pipe Line Co. from the Barbers Hill Field to a connection with its Hull-Goose Creek system.

In East Central Texas, Humble Pipe Line Co. furnished a pipe line outlet for the Humble Oil & Refining Co.'s field at Boggy Creek by an 8-inch line to Groesbeck, a distance of 60 miles, where the line connects with the company's trunk system to the Coast.

Interstate Lines Out of Oklahoma

Very little new pipe line construction work was started in the first half of 1929 in Oklahoma. The first field to necessitate pipe line construction in 1929 was the Asher Pool in Pottawatomie County, southwest of the St. Louis Field. The work of connecting it with lines into the St. Louis area required only about 10 or 12 miles of additional pipe lines.

Sinclair Pipe Line Co. built a 6-inch line from its station in the St. Louis Field to a point directly south of the production in the Asher Pool, in Section 19-6-4; Consolidated Pipe Line Co. a 4-inch line from Pearson Switch to Asher; Prairie Pipe Line Co. a 6-inch line from its station in the St. Louis Pool to its new station south of Asher; the Texas Pipe Line Co. 8 miles of 6-inch from St. Louis to the Asher Field.

The slow development at Oklahoma City, where the Empire Pipe Line Co. completed an 8-inch line from Guthrie to the new field the latter part of last year was sufficient to handle that situation until recently when the Prairie Pipe Line Co. laid 45 miles of 8-inch line from Shawnee to Oklahoma City. The Sinclair Pipe Line Co. has surveyed a 30-mile extension from the main line south of Payson to Oklahoma City Field. While this line is only proposed at this time it is expected to be finished by the first part of next year.

The only major pipe line systems under construction were all started last year, and most of those are of an interstate character. One of the projects completed this year was the Sinclair Pipe Line Co.'s system of main line loops, about 361 miles in length of different size lines to the Chicago district. The work consisted mainly of 9 miles of 8-inch, 278 miles of 10-inch, 74 miles of 12-inch. Another Sinclair line of major importance was a 10-inch line from the Earlsboro Field, Seminole County, to Hominy, in Osage County. Another line of interstate character is the Texas-Empire pipe line which was begun last year. It originates at Drumright, Okla., and runs to the refinery at Lockport, Ill. It is under construction at the present time. It is a 12¾-inch welded line. The line leaves Oklahoma just north of Chetopah. It will have capacity of 60,000 bbls. a day.

The Prairie Oil & Gas Co.'s 500 miles of 8 and 10-inch pipe line loops, which will increase the capacity of the main line, was not yet completed at the close of June. The construction work on this line was of interstate character, originating at Shawnee, Okla., and ending in the Chicago district.

The Cosden Pipe Line Co. has under construction a 6-inch additional line which will be a loop to the main line from Mounds to Henryetta. The only other pipe line work this company has completed during the past six months was 9 miles of 3-inch gathering lines in the Weleetka area in Township 10-11. The

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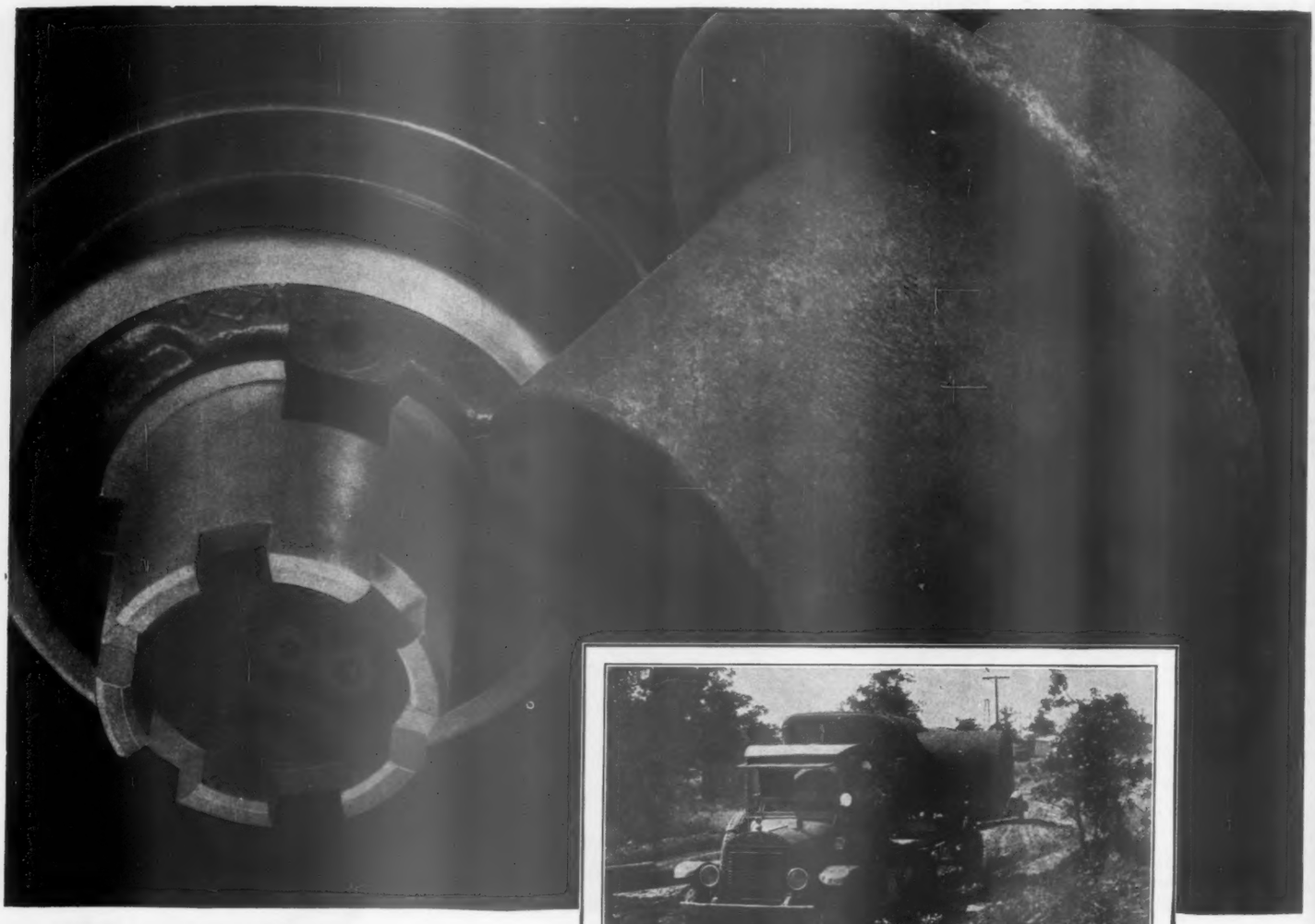

Braden Winch taking a heavily loaded truck through rough going.

Saving Minutes and Dollars

The worth of castings, like that of men, often cannot be determined until after work has been spent on them.

Only after machine tools have cut through apparently perfect casting surfaces are hidden defects found. And the time spent in what should have been productive operation has become a costly waste.

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That means an effective saving in machining time—an effective saving of the waste that ordinary castings, like ordinary men, too often involve.

SIVYER STEEL

SIVYER STEEL CASTING COMPANY, MILWAUKEE

Texas Pipe Line Co. finished 16 miles of 6-inch from Seminole City to Maud. The Sinclair Pipe Line Co. completed a line from Drumright to Payson, which consists of 34 miles of 10-inch line. And another line from Payson, Okla., to Earlsboro, Okla., which was 28 miles of 8-inch.

Few New Lines in Kansas

Little in the way of new pipe line work was completed in the first half of the year in Kansas. The Sedgwick County Field caused considerable new work the last part of last year, but with the exception of short lines in the northeastern part of that county and some gathering lines in Ellis County, these lines constituted the chief activity of this nature.

The Prairie Pipe Line Co. completed a 6-inch line from its station in the Eldorado Field to a new station in Section 14-26-2, Sedgwick County. Phillips Petroleum Co. has under construction a small gathering line 4-inch in size from its completed wells in Ellis County to the town of Hays, where that company will construct a loading rack and ship the crude out in tank cars. Several wildcats wells are shut in on account of lack of pipe line connections. A pipe line to convey gas was completed in McPherson County gas field to the town of Hutchinson, which consisted of 18 miles of 10-inch line.

The Prairie Pipe Line Co. completed a new 6-inch pipe line from the Walnut station in Butler County to the new Robbins Pool in Sections 20 and 21-28-1, Sedgwick County, about 3½ miles south of Wichita. Another extension completed by the same company was from the station near Florence to the Hillsboro Pool in Marion County. This was a 6-inch pipe line about 20 miles in length.

A Big Combination

The Mississippi River Fuel Corp. is owned by the Standard Oil Co. of New Jersey, Columbian Carbon Co., United Carbon Co., Electric Power & Light Corp., Moody-Seagraves Co. and the Palmer Corp., which combination also owns the Louisiana Gas & Fuel Co., the producing agency. Between them these interests own and control 193,000 acres in fee and leased producing and semiproven acreage in the Monroe Field and 70,000 acres or more in the Richland Field which produces the largest percentage of the two fields' gas, and in addition has large potential producing acreage in West Carroll Parish where approximately 80,000,000 feet of gas production has already been tapped in two wells.

To Far Off Cities

The Birmingham-Atlanta-Chattanooga line is being built by the Southern Natural Gas Corp. of which R. C. Sharp is the head, and is scheduled for completion in October. Crossing the Mississippi River in the vicinity of Henderson, East Carroll Parish, it will consist of approximately 350 miles of 24-inch clamped line and about 750 miles of smaller main line and laterals serving Vicksburg, Jackson, Meridian and Columbus, Miss. Selma and Anniston, Ala., and Rome and Marietta, Ga. At Tuscaloosa, Ala., the trunk line branches south to Montgomery and north through Birmingham to Ragland, Ala., where it turns east to Atlanta and then southeast to Macon, Ga. The Chattanooga line branches off between Ragland and Anniston. Between these principal points there are scores of smaller communities that also will be served.

The first of the compressor stations probably will be located at Pioneer, West Carroll Parish, Louisiana, where two lines of 16-inch line from the Monroe Field, 25 or 30 miles west, and the Richland Field about the same distance southwest join. Four crews are working in Louisiana and four in Mississippi as this is written and 141 miles of right of way has been cleared, 100 miles ditched and 96 miles laid and covered. Available market for its gas is estimated at 51,000,000,000 feet per year and the line will have a maximum capacity of 150,000,000 feet per day.

Four Crews Working on Line

Four crews are working on the Ar-Kansas-Louisiana Pipe Line Co.'s (Arkansas Natural Gas Corp.) 20-inch line from Waskom, Tex., compressor station of the Dixie-Gulf Gas Co. to Sterlington in the Monroe Field, thence southeast to the Richland Field, of which 12 miles is in the ground, 45 miles strung and 75 miles of right of way cleared. There will be one compressor station on the line serving both it and the company's line into Arkansas when the need arises. Approximately 15 miles of 12-inch line, looped, across the LaFourche swamp between Monroe and the field is in place.

Location of the station is on the Ouachita River, a mile south of Sterlington, in the Monroe Field. It will have ten 1,000 horsepower Cooper-Bessemer twin tandem double-acting compressors delivering gas to the line at 400 pounds pressure with provision made for extension of buildings and compressor capacity. Auxiliary equipment consists of two 250 horsepower four-cylinder Cooper-Bessemer vertical engines direct connected to Allis-Chalmers generators for electrical equipment and three 2,500 r.p.m. Allis-Chalmers electrically-driven centrifugal pumps for cooling and other water service, starting compressors, motor generator sets, etc. The station is designed to be one of the largest and most completely equipped in Louisiana with machine shops, warehouse, community center and dwellings for employes, etc. Foundation work is about completed and it is expected the entire installation will be finished within three months. Total length of the line will approximate 120 miles.

The company also completed 20 miles of 10-inch line from the Trees compressor station at Emmett, Ark., to Okay, Little River County, and about 50 miles of 12½-inch line from El Dorado to Trees, and bought the Industrial Gas Co.'s 16-inch line and the Latex Construction Co.'s 12 and 14-inch line from the Monroe Field to El Dorado and Camden, Ark. The Trees-Okay line was built to supply a cement mill on Little River at Okay in Little River County, and may eventually be extended into East Texas where the company has franchises in several towns. The El Dorado-Trees station line was built to bolster the northwest Louisiana-Little Rock main line with gas from the Monroe and Richland fields in addition to the new connection with the Little Rock line afforded by the Monroe-Waskom line now building. Two lines were completed about the first of the year and placed in service in January. They were the Memphis Natural Gas Co.'s 212-mile 18-inch line with compressor stations at Sterlington and at Greenville, Miss. It has a capacity of 60,000,000 feet per day which with the addition of two more stations for which provision was made in the original plans will be raised to 80,000,000 feet, and the Arkansas Natural Gas Co.'s 75 miles of 10-inch from the Clarksville Field in Johnson County to Little Rock, where it ties in with the main line from northwest Louisiana.

Smaller Activities

Smaller items of pipe line activity were the Interstate Natural Gas Co.'s looping of its 22-inch line from Monroe to New Orleans, 5 miles of the loop being between Wisner and Gilbert, La., and the remaining 20 between Thompson Creek and the Baker canal just north of Baton Rouge and two short oil lines. The first of these was 10 miles of 4-inch built by The Texas Pipe Line Co. from its Louann station in the Smackover Field to take production from the Mount Holly district in Ouachita County and about 5 miles of 4-inch laid by the Dixie Oil Co. from the new Dixie district, 10 miles north of Shreveport to connect with an unusued line belonging to the Magnolia Petroleum Co., which the company leased. At Pine Island connection is made with the Dixie's line to the refinery at Superior.

While Palmer Corp.'s gasoline plant at Alto, Richland Parish, was being completed and tested, the company began construction of approximately 125 miles of 12-inch welded line which will belt the field and supply the plant with gas. This job is about half completed.

As a detail of its program for increasing its crude supply, Lion Oil Refining Co. of El Dorado bought the Speith Pipe Line Co. property in the Smackover Field

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consisting of 1 mile of 6-inch and 2 miles of 4-inch leading to two 55,000-bbl. tanks which, together with a 24-car loading rack, was a part of the property purchased.

Standard Pipe Line Co. of Louisiana built 20 miles of 4-inch line from the Pleasant Hill Pool in northern Sabine Parish to the Zwolle district where R. L. Gay and others have two wells producing approximately 125 bbls. per day.

Dixie Gulf Gas Co. built a 6-inch unit field compressor station in the Bethany gas field of Panola County, Texas, to take low pressure gas at 75 pounds intake pressure and deliver it to the Waskom main line station through about 12 miles of 12-inch line at 175 pounds. Equipment is the same as that in the Waskom station, Hope compressors and two 40 horsepower 25 kilowatt Westinghouse generator sets for the auxiliary power and light plant.

As the half year closes no prospects for new pipe line activities appear in the Louisiana-Arkansas division but the completion of the St. Louis, Birmingham and Waskom-Richland lines will be accomplished before the end of the year.

Rocky Mountain Oil Lines

Oil pipe line construction in the Rocky Mountain area during the first half of 1929 was very limited and confined almost exclusively to southeastern New Mexico. The Texas Pipe Line Co. built an extension of its system from Wink, Tex., to Jal, in Lea County, New Mexico, a distance of 11 miles, the pipe being 10 inches in size. Two 55,000-bbl. tanks and a pumping station were constructed at the Jal terminal. This company is now making surveys for an extension of the Jal line to the Texas Production Co.'s No. 1 Beulah Lynch, NW SE, Section 34-20-34, a distance of 48 miles. This line will consist of 10-inch pipe. A 37,500-bbl. tank is storing oil at the Lynch well. It is planned to build a 3¾ mile 3-inch line from this well to Henderson, Dexter & Blair's No. 1 Jewett & McDonald, SE cor., Section 18-20-34. The Illinois Pipe Line Co. built a short line from Flynn, Welch & Yates' No. 1 Jackson, C NE, Section 13-17-30, in Eddy County, New Mexico, to a connection with its Maljamar-Artesia line. The Humbls Pipe Line Co. is making plans for a 10-mile 8-inch line from the Leek Pool in Winkler County, to the Skelly Oil Co.'s No. 1 Joyner in the Jal district, and the Paso-Tex Pipe Line Co. is reported considering the construction of a 60-mile line from West Texas to the Marland Oil Co.'s No. 1 Lockhart, NW NW, Section 31-21-36, in Lea County. No new construction was reported in Colorado or Wyoming.

Rocky Mountain Gas Lines

Natural gas pipe line construction in the Rocky Mountain area during the first half of 1929 was prosecuted on an extensive scale though most of the larger projects were inaugurated before the beginning of the new year. The El Paso Natural Gas Co.'s 200-mile 16-inch line from Lea County, southeastern New Mexico, to El Paso, Tex., was completed and put into operation. This line has a capacity of 35,000,000 feet a day and transports the gas from the wells of the Texas Production Co., the Marland Oil Co., and others, to the vicinity of El Paso where it is taken by the Texas Cities Gas Co. for local distribution in El Paso and neighboring towns and industries in West Texas. The Pecos Valley Gas Co. completed a 22-mile line consisting of 3½ and 5-inch pipe from Artesia to Carlsbad in January, and the extension of this line on towards Roswell, a distance of 45 miles, was continued. The towns of Lovington, Portales and Clovis are included in this system. The Southwestern Public Service Co. has the franchise for distributing the gas in Roswell and will purchase its supply from the Pecos Valley Gas Co. The Hope Engineering Co. is completing its system from the Ute Dome, in New Mexico, to Durango, Colo. This line comprises 36 miles of 6-inch pipe and will take gas from the wells of the Producers & Refiners Corp. and the Midwest Refining Co. It will be operated by the Mesa Grande Gas Co. The Durango Natural Gas Co., which constructed approximately 14 miles of city mains in Durango, is the distributing company. Both concerns are controlled by the Hope interests.

A Doherty Line

The Colorado-Wyoming Gas Co., a subsidiary of the Cities Service Co., commenced the construction on July 1 of a line from Littleton, Colo., to Fort Collins. This line will be approximately 65 miles long and will consist of 10-inch pipe from Littleton to Boulder and 8-inch pipe from Boulder to Fort Collins. At the last-named point the line will connect with the same company's line from Fort Collins to Cheyenne. A 25-mile extension from Fort Collins to Greeley, and numerous branch lines to supply Golden, Arvada, and other intermediate towns are included in the plans, the entire project to represent an investment in excess of $1,000,000. The gas will be purchased at wholesale from the Colorado Interstate Gas Co. which operates the northern end of the Amarillo-Denver line completed and put into operation last year at a cost of $25,000,000. The Public Service Co. of Colorado, subsidiary of the Cities Service Co., local distributor in Denver and Pueblo, also owns the distributing subsidiaries at Boulder, Fort Collins, Cheyenne, and other points to be served. The Colorado Interstate Gas Co. built branches from its Amarillo-Denver line to La Junta and other towns in the Arkansas Valley east of Pueblo during the spring. This extension will include Swink and Rocky Ford. This company is constructing a booster station at a cost of $400,000 near Model, in Las Animas County.

To Supply Salt Lake City

The western Public Service Co.'s system from the Hiawatha and Baxter Basin areas in Colorado and Wyoming into central Utah, to supply Salt Lake City, Ogden, and other towns, will be completed and put into operation early in August. The line with laterals and branches will comprise a system of approximately 350 miles of pipe and represent an investment of $20,000,000. The Prairie Oil & Gas Co., the Producers & Refiners Corp., the Columbia Gas & Electric Co., and the Ohio Oil Co. are controlling factors in the system. The Uintah Pipe Line Co. is the subsidiary which is constructing the line and will be in charge of the transportation of the gas, the Mountain Fuel Supply Co. is the producing concern, and the Columbia Gas & Electric Co. and affiliated concerns are the distributors.

A small project in Utah is being constructed by the Uintah Gas Co., consisting of an 8-mile line from two gas wells on the Ashley Valley Dome to Vernal, both in Uintah County. Vernal is an inland town of about 2,500 population. Ten miles of town mains are included in the project. The gas wells were purchased by the company from the Utah Oil Refining Co.

Montana's New Lines

Two short pipe lines were completed in Montana during the first half of the year. The Ohio Oil Co. laid a 9½-mile line from its Dry Creek gas well in southern Montana to a point near Bridger where it connected with the gas line from Elk Basin to Billings. The line consists of 8-inch pipe and cost in the neighborhood of $100,000. The gas will be used for emergencies, such as the failure of the Elk Basin supply during the extreme cold weather last winter.

The Midwest Refining Co. acquired a controlling interest in the Pondera Pipe Line Co.'s 4-inch oil line from the Pondera Field to Conrad when the Continental Development properties changed hands, and this line was completed and put in operation in March. It is 7¼ miles in length. The line is used mainly to run the Ohio Oil Co.'s crude.

If all the proposed gas lines are laid, Montana will see an era of unprecedented activity in pipe line construction. Early in the year the Montana-Dakota Power Co. announced that a gas line would be laid to serve 26 communities along the Great Northern Railroad. Work was to start in the summer of 1929. Later it was reported that the same company would pipe gas to Glasgow and that the proposed Glasgow-Chester line might later be used to link the Kevin-Sunburst Field into a line through North Dakota to Minneapolis. Rumors also included one involving a line to Seattle, serving Idaho cities on the way.

In May a conference was held in Great Falls to consider plans for piping gas from the Kevin-Sunburst Field to Butte with branch lines to Helena and Anaconda. Such a line would be about 200 miles in length and would cost in the neighborhood of $12,000,000. A much greater gas supply would have to be developed in the field before such a project would be feasible. It has also been reported that interests which secured permission to market gas from the Rogers well in Canada contemplated piping gas across Montana to Anaconda and Butte.

Plans for piping gas from the Pondera Field to Conrad fell through when it was noted that the gas in Pondera wells soon failed, and the Citizens Gas Co. of Shelby announced that a line would be laid to supply Conrad with Kevin-Sunburst gas. E. J. Hubbert, who purchased the Emrick & Darling franchise in Conrad and Choteau announced in June that a line would be laid by himself and associates and that Kevin-Sunburst gas would be available in the two towns by October 1.

One oil line is in prospect, the Hardrock Oil Co.'s proposed carrier for Bannatyne crude. Construction of this line depends on findings of the production test now being made in the Bannatyne Field by the Texas Pacific Coal & Oil Co. E. B. Coolidge, president of the Hardrock, announced the proposed construction early in the year.

East of Mississippi River

No large pipe line system was put in anywhere in the Central West Field comprising the Lima Field, Central Ohio, Indiana and Illinois. The Buckeye Pipe Line Co. constructed about 8 miles of 8-inch line to connect up the new Berea sand production in Lake and Mohican Township, Ashland County, in Central Ohio. More oil gathering line of the 2 and 4-inch variety were laid. The gas companies did a great deal of work in the way of straight gathering lines from the outlying gas wells all over Central Ohio.

In southwestern Indiana lines to convey gas to Princeton, Washington and other nearby towns put into use about 35 miles of pipe.

In western Kentucky, the Illinois Pipe Line Co. has been busy laying gathering lines where needed through Ohio, Daviess, Hancock, Warren and Allen Counties, and put in a short line to connect up the well of the Ohio Oil Co., on the Kennedy farm in Muhlenburg County, to a loading rack at Greenville. Same company laid two lines to take care of the rich Bartlett Pool near Taffy, in Ohio County, and also laid many miles of gathering lines to good outlying producing wells. The Producers Pipe Line Co. also laid a line from the Red Hill district in Daviess County to connect with the company's line going into the company's stock tanks a mile east of Owensboro, on the Ohio River. Missouri-Kansas Pipe Line Co. is just completing a gas line from the Jones Pool in Daviess County, Kentucky, to Owensboro, a distance of 10 miles where it will be cut in by the Owensboro Gas Co.

According to advice from the Muskegon, Mich., Field at least five lines are taking or getting ready to run oil from the wells to loading racks along the railroads in Muskegon, also further connections with the docks from where oil is being shipped by boat to Chicago, Whiting and other points. None of the five lines is over 15 miles in length and all are of the 4-inch kind. With two or three refineries reported ready to start construction work, additional lines will be laid during the

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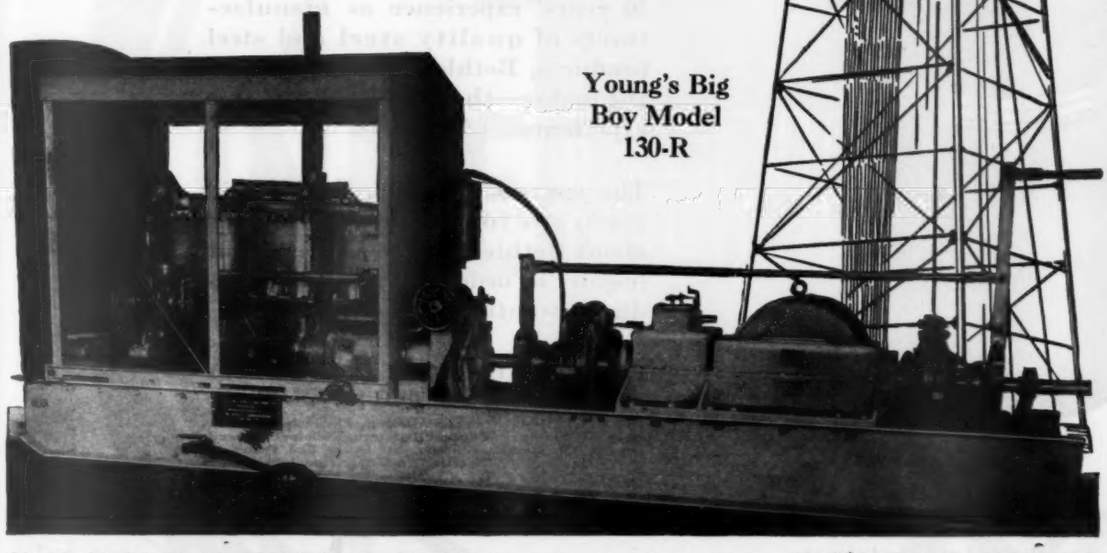

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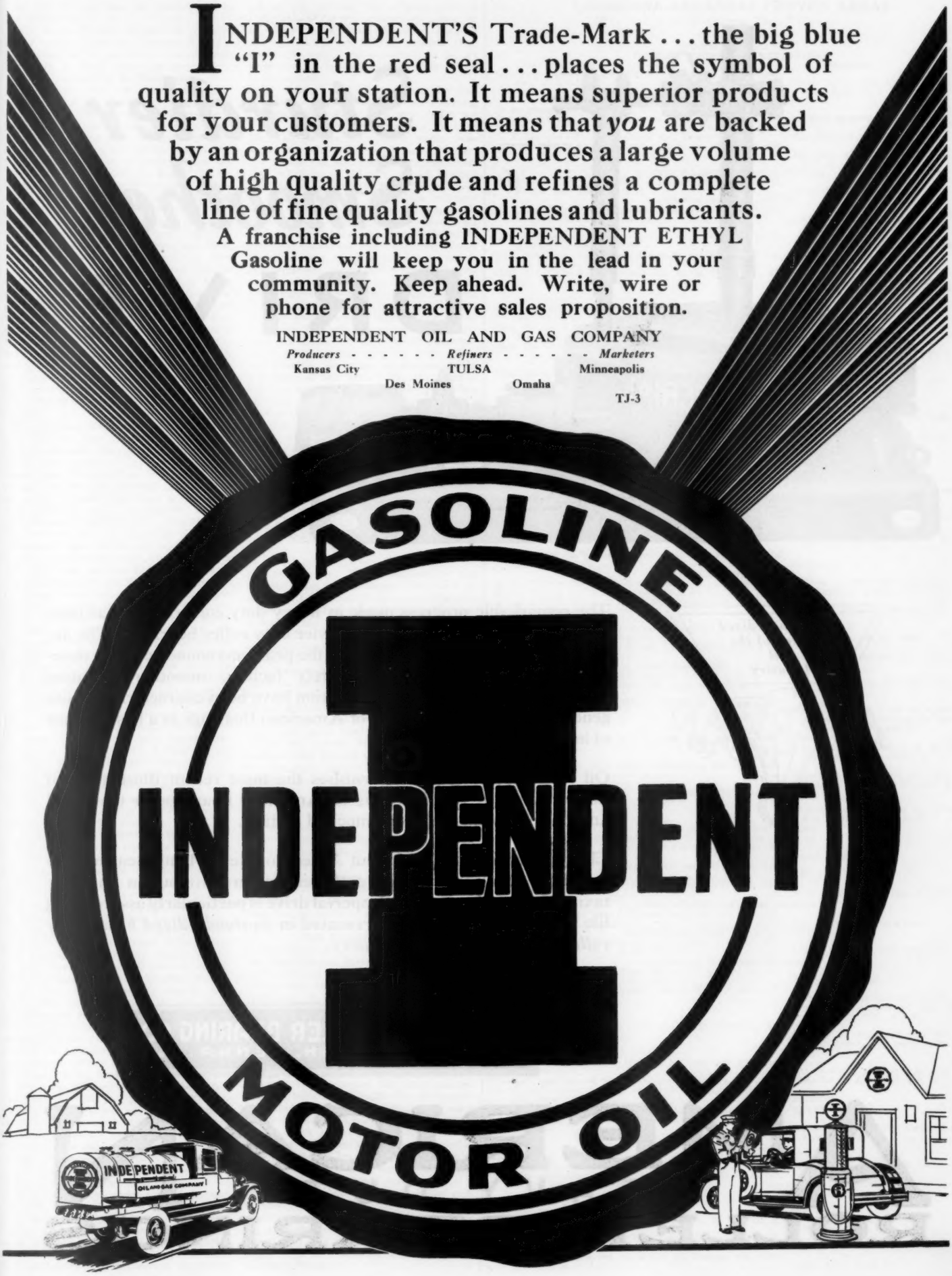

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last half of the year to furnish oil to the refineries.

An 8-mile 2-inch oil line is reported under construction in Jackson County, Tennessee, for the handling of crude from the Blick & Blick producing property.

Construction in California

Two major pipe line construction jobs were started in California during the first half of the current year and both are scheduled for completion in the very near future. The most important project is the natural gas line which the Pacific Gas & Electric Co. is laying from the Buttonwillow gas field of Kern County northward to the San Francisco Bay region, a distance of approximately 350 miles. Although the Associated, Standard and Shell all have crude oil lines extending northward through the San Joaquin Valley to San Francisco Bay, the Pacific Gas & Electric Co.'s new project is the first natural gas line to be laid over that territory. It is being constructed for the specific purpose of affording an outlet for large quantities of natural gas produced in the San Joaquin Valley and was undertaken primarily as a result of a contract entered into between the Pacific Gas & Electric Co. and the Milham Exploration, by the terms of which the former agreed to purchase the latter's production of natural gas in the Buttonwillow gas field of Kern County.

The Milham Exploration Co., incidentally, was the first concern in California to discover and develop an exclusive gas field. The company's properties are located near Buttonwillow in Kern County and the 10 wells finished in that area up to the present time have a conservative potential daily production of approximately 500,00,000 feet. The Milham Exploration Co. subsequently developed substantial gas production in the north dome of Kettleman Hills where it has a well producing around 70,000,000 feet of gas daily and the Pacific Gas & Electric Co. accordingly rerouted its natural gas line via this field in order to be in a position to handle both areas if necessity required. It does not seem logical to assume that the Milham will open up its potential natural gas production at Buttonwillow in view of the large quantity of natural gas which is being blown into the air at Kettleman Hills. It is natural of course for land owners in the Buttonwillow gas field to demand that the Milham open up this production but at the same time it would be a logical procedure for the State Oil & Gas Supervisor to hold back this production at Buttonwillow until the surplus at Kettleman Hills has been taken care of in conformity with the recently enacted gas conservation law, which contemplates the elimination of gas waste.

Line From Kettleman Hills

The second major pipe line undertaking started in California during the present year is that of the Standard Oil Co. This project, which is just getting under way, will be laid westward from Kettleman Hills to tidewater in San Luis Obispo County, and will have for its objective the transportation of any crude oil produced in the Kettleman Hills Field. The Standard could very easily tie in to its major trunk, which extends northward through the San Joaquin Valley to the San Francisco Bay region, but this would involve transportation problems because of the high gravity oil produced at Kettleman Hills. Present plans contemplate the transportation of this 60-gravity oil westward to tidewater in San Luis Obispo, where it will be loaded into Standard Oil Co. tankers and transported to either the Richmond refinery near San Francisco or the El Segundo refinery, located at tidewater near Los Angeles Harbor. Upon completion of this new line the Standard will have the most comprehensive pipe line system in California. This concern does not have a major trunk extending southward from Kern River to Los Angeles but it is quite possible that some such undertaking will eventually be started at some later date when the present flush production of Los Angeles Basin fields has become a thing of the past. It might be interesting to mention in this connection that geologists and petroleum engineers are of the opinion that a large part of California's future production must of necessity come from the San Joaquin Valley, which up to the present time has really only been scratched, as far as scientifically located wildcat exploration is concerned.

In addition to the two major pipe line installations under way several addtional laterals and feeding lines have either already been completed since the first of the year or are at present under construction. In the San Joaquin Valley, the Union Oil Co. has started construction work on a 16-mile, 8-inch welded line extending from the Mount Poso Field of Kern County to its Maltha refinery where it will be tied into the company's main trunk. Several other short oil and gas lines have also been finished in southern California since the first of the year but most of these supplement existing facilities. It is quite probable that a natural gas line will be laid south from Los Angeles to San Diego within the next several months, as tentative plans have already been made to furnish San Diego and other southern communities with natural gas in lieu of the present manufactured artificial gas now in use. This will involve the laying of approximately 125 miles of new lines. The Rio Grande Oil Co. is putting the finishing touches on three new crude oil and gasoline lines from Los Angeles Harbor to its Vinvale refinery, a distance of approximately 12 miles, and this installation, which will permit the company to utilize its production in the Elwood Field of Santa Barbara County and engaged in offshore gasoline business, should be in operation shortly.

INITIAL PRODUCTION RECORDS ARE BROKEN

(Continued from Page 111)

half of the year. The development of the Dundee sand in Muskegon Field and in the Mount Pleasant Field in Isabella and Midland Counties resulted in a production which at the close of the half year was estimated at over 18,000 bbls. a day. The oil finds ready sale, much of it being shipped in tankers to Indiana and Illinois refineries and some of it being refined in Michigan and Canada. Only a few oil wells have been drilled in the Mount Pleasant Field, and there is room for many more in what is considered as reasonably sure territory.

The old Central West fields in Ohio, Indiana and Illinois made a good record in operations, chiefly by reason of the big drilling campaign in the Central Ohio territory. Western Illinois showed some new producing spots, St. Clair County coming in for considerable attention.

The Bradford and Allegany fields kept about 350 strings of tools busy all through the half year. Many of the wells drilled are not included in the compilation of completions because they are merely water wells by which to flood oil wells, but the fields were busier than they had been for 40 years or more with new systems of flooding.

Gulf Coastal Activity

A number of productive salt domes in the Gulf Coastal Division were opened to production in the first half of the year. Discoveries were made both in Texas and Louisiana, and in addition to old Hackberry and Lost Lake, the domes include Port Neches, Hankamer, Black Bayou, Dog Lake Bayou, Lake Pelto and Bay St. Elaine. Seven hundred and eighty-two wells were completed in the Gulf Coast in the first six months as against 706 in the same period last year and the initial production, 258,222 bbls., compares favorably with 226,981 bbls., the record of the same period in 1928. One feature of the work in the Gulf Coast was the discovery of big production a little southeast of the old Jennings Field in Louisiana in sand at 7,400 feet. The Yount Lee Oil Co. drilled the well, its No. 6 Housierre-Latrielle. It had an initial production of 5,000 bbls. of pipe line oil. Another well in the district is now drilling at 7,600 feet. Wildcat operations in the Gulf Coast were very active over a large area of southern Louisiana and southern Texas.

LOUISIANA-ARKANSAS PROVEN AREAS

(Continued from Page 71)

NORTH LOUISIANA

BOSSIER PARISH—CARTERSVILLE

Company, farm and location—	Remarks:
Delaware-Louisiana Development Co.'s No. 4 Bollinger, Sec. 33-23-11	Swbd. little mud and oil 5,150 ft; T.D. 3,922 ft.

BOSSIER—BELLEVUE

H. L. Morgan et als' No. 1 Wetherbee, 200 ft. S, 200 ft. W, NE cor. SW SE, Sec. 21-19-11	Derrick pattern.

BOSSIER—ELM GROVE

J. F. Palmer's No. 4 McCann, Sec. 31-16-11	S.D. 1,910 ft.
Palmer Corp.'s No. 2 McDade, 660 ft. N, 660 ft. E, SW cor. NW SW, Sec. 13-17-12	Spudded July 12; cmtd. 12½-in. 122 ft; 9-in. 844 ft.

CADDO PARISH—MOORINGSPORT

Falcon Oil Co.'s No. 1 Nunley, 3,212 ft. N and 5,591 ft. E SW cor. Sec. 29-20-15	Drlg. 1,080 ft.

CADDO PARISH—DIXIE

Gold and Sklar's No. 2 Hunter, 330 ft. S and W, NE cor. SW NE, Sec. 17-19-14	Spudded July 14; cmtd. 10-in. at 160 ft.
Gulf Refining Co.'s No. 3 Oden, 990 ft. W and 330 ft. S NE cor. Sec. 18-19-14	Arranging to pump; T.D. 2,411 ft.
Gulf Ref. Co.'s No. 5 Oden, 990 ft. S, 990 ft. E, NW cor. NE, Sec. 18-19-14	Rig up.
Gulf Ref. Co.'s No. 1 Hunter, 990 ft. N, 990 ft. W, SE cor. NE, Sec. 17-19-14	Spudded July 12; cmtd. 10-in. 81 ft; top Nacatoch 841 ft; drlg. 870 ft.
Gulf Ref. Co.'s No. 2 Hunter, 330 ft. W, 250 ft S, C. Sec. 17-19-14	Rig up.
Ohio Oil Co.'s No. 5 Hunter, 990 ft. E, 330 ft. N, SW cor., Sec. 17-19-14	Location.
Ohio Oil Co.'s No. 2 Hunter, SW cor. NE NW Sec. 17-19-14	Cmtd. 6⅝-in. 2,375 ft; T.D. 2,415 ft.
Ohio Oil Co.'s No. 3 Hunter, 330 ft. N and E, SW cor. NW NE, Sec. 17-19-14	Spudded July 12; Cmtd. 10-in. at 105 ft.
Ohio Oil Co.'s No. 4 Hunter, 330 ft. N and W, SE cor. NW NE, Sec. 17-19-14	Derrick.
Palmer Corp.'s No. 1 Hunter, SW cor. Sec. 8-19-14	Arranging to pump; T.D. 2,404 ft.
Palmer Corp.'s No. 2 Hunter, 990 ft. E, 330 ft. N, SW cor. Sec. 8-19-14	Spudded July 12; cmtd. 10-in. 105 ft; drlg. 1,162 ft.
Standard Oil Co.'s No. 3 Henderson, 220 ft. N, 330 ft. W, SE cor. SW SE, Sec. 7-19-14	Derrick.
Standard Oil Co.'s No. 3 Hunter, 330 ft. S, 330 ft. E NW cor. SE NW, Sec. 17-19-14	Drlg. gumbo 2,050 ft.
Standard Oil Co.'s No. 5 Hunter, Sec. 17-19-14	Waiting on standard rig to pump; T.D. 2,411 ft.
Standard Oil Co.'s No. 6 Hunter, 330 ft. S, 330 ft. W, NE cor. NW NW, Sec. 17-19-14	Cmtd. 6-in. 2,380 ft; drlg. 2,416 ft.
Standard Oil Co.'s No. 7 Hunter, 330 ft. S, 330 ft. W, NE cor. SE NW, Sec. 17-19-14	Spudded July 16; cmtd. 10-in. 96 ft; drlg. 277 ft.
Standard Oil Co.'s No. 3 Oden, 330 ft. S, 330 ft. W, NE cor. SW NE	Location.

CADDO—OIL CITY

W. D. Chew's No. 5 fee, Sec. 33-21-16	Bailing to test; T.D. 2,306 ft.
W. D. Chew's No. 1-B fee, Sec. 33-21-16	Arranging to pump; T.D. 1,855 ft.
W. D. Chew's No. 1-C Levee Board, 2,490 ft. W, 1,470 ft. S, NE cor., Sec. 34-21-16	Spudded July 12; cmtd. 10-in. at 82 ft.
Gulf Ref. Co.'s No. 17-A Levee Board, 1,126 ft. S, 150 ft. E, NW cor. NE, Sec. 34-21-16	Cmtd. 10-in. 42 ft; drlg. 1,772 ft.
Magnolia Petroleum Co.'s No. 18 Doan-Thigpen, SE cor. SW SE Sec. 6-20-15	Reaming to bottom; T.D. 3,500 ft.
Magnolia Pet. Co.'s No. 4 Levee Board, 330 ft. S, 330 ft. E, NW cor. NE NE, Section 7-20-15	Rig up.
C. B. Moore's No. 5 Dillon, SW cor., Sec. 22-20-15	Plugged back to 2,188 ft; T.D. 2,202 ft.
Shreveport Oil Corp.'s No. 1 Cheshire, NE Sec. 32-21-15	Plugged back to 1,640 ft; standing 900 ft. in oil; waiting on standard rig; T.D. 3,156 ft.
Shreveport Oil Corp.'s No. 1 Guy, NW NE Sec. 32-21-15	Tested S.W. with show of oil; S.D. for orders; T.D. 2,300 ft.
Simplex Oil Co.'s No. 7 Youree-Randolph, 660 ft. N and 660 ft. W C Sec. 13-20-15	Tested 50,000 ft. gas at 2,300 ft; S.D. for orders; T.D. 2,326 ft.

CADDO PARISH—LEWIS

Snake Creek Oil Co.'s No. 1 Levee Board, SW NW Sec. 9-21-16	Tested dry with show of oil and S.W; S.D.; T.D. 2,328 ft.

CADDO PARISH—PINE ISLAND

Dixie Oil Co.'s No. 92 Dillon, SW NW Sec. 13-21-15	Drlg lime and shells 6,274 ft.
Dixie Oil Co.'s No. 100 Dillon, 1,300 ft. S, 415 ft. E. NW cor., Sec. 13-21-10	Cmtd. 6-in. 1,523 ft.
Dixie Oil Co.'s No. 5 Hobbs, SE cor. NW SE Sec. 21-21-15	S.D. 1,673 ft.
Magnolia Petroleum Co.'s No. 18 Dillon, NW cor. Sec. 24-21-15	Drlg. hard sandy shale 4,807 ft.

CLAIBORNE PARISH—HOMER

Oakes and others' No. 1 Richardson, NE SE Sec. 19-21-7	S.D. 1,112 ft; in litigation.

CLAIBORNE PARISH—HAYNESVILLE

Smitherman & McDonald and others' No. 1 Miller, 825 ft. S and 660 ft. E C Sec. 17-23-8	S.D. for orders; T.D. 4,780 ft.

LASALLE PARISH—URANIA

J. W. Clark's No. 8 Tullos, 150 ft. N and 27 ft. W, SE cor. SE SW, Sec. 23-10-1e	Cmtd. 6-in. 1,487 ft.
Kinney, Hardtner & Randall's No. 1 Kinney, SW SW Sec. 7-10-2e	Cmtd. 6-in. at 654 ft; bailed to top of liner; showed gas; S.D for orders; T.D. 675 ft.
Louisiana Oil Refining Corp.'s No. 39-B Tremont, SE NE Sec. 25-10-1e	Waiting on standard rig; 700 ft. oil in hole; 3 ft. sand; T.D. 1,530 ft.
Philp and others' No. 1 Urania, SE cor. NE NE Sec. 1-10-1e	S.D. waiting orders; T.D. 630 ft.
Randall and others' No. 3 Urania, Sec. 1-10-1e	Fish. for bailer; T.D. 675 ft.
G. W. Zoder's No. 3 King, 150 ft. N, 600 ft. W, SE cor. NE, Sec. 13-10-1e	Location.

LASALLE PARISH—LITTLE RIVER

Montague Oil Co.'s No. 7 Zenoria Lumber Co., Sec. 11-9-1e	Set 8-in. at 825 ft; tested S.W; waiting orders.

MORKHOUSE PARISH

Consolidated Carbon Co.'s No. 2 J. White, 429 ft. W, 149 ft. N, SE cor., Sec. 16-20-4	Spudded July 15; drlg. 100 ft.
Grecian Bend Gas Co.'s No. 1 Seacrease, 2,025 ft. S, 203 ft. W, NE cor. SE, Sec. 14-20-4	Spudded July 12; cmtd. 12-in at 196 ft.
S. D. Hunter's No. 9 Allison, 660 ft. S, 660 ft. E, NW cor. Sec. 18-20-5	Rig up.
S. D. Hunter's No. 10 Allison, 1,962 ft. E, 660 ft. S, NW cor., Sec. 18-20-5	Location.
Magnolia Pet. Co.'s No. 5 U. S., 620 ft. N, 330 ft. W, SE cor. NE SW, Section 29-21-5	Rig up.
Natural Gas Producing Co.'s No. 15 Tensas, SW NW Sec. 4-22-4	Cmtd. 6-in. 2,053 ft.

PATRICK
CARBON
for Diamond Core Drilling

The Value of the Diamond Core Drill to the Oil Industry

BECAUSE the Diamond Core Drill obtains positive sub-surface data, it minimizes the hazards involved in complete dependence upon geophysical prospecting or upon meager surface geology. It is an important complement to these methods and may be used as a substitute for either or both. In many instances, small sums spent in Diamond Core Drilling have saved many times the cost.

Correct interpretation of the information disclosed by the Diamond Core Drill is of the greatest importance, and competent geological supervision is essential.

For purely exploration purposes, small portable Diamond Drills are used, or large Diamond Core Drills may be employed to combine exploration with production drilling where surface geology or geophysical data indicates favorable conditions. The ability to core even the hardest formations rapidly and economically, to drill to great depths, and to drill efficiently under the most difficult conditions, are a few of the many important factors that make the Diamond Core Drill indispensable to the Oil Industry.

To those interested in or engaged in Diamond Core Drilling, the Patrick Organization offers a distinct and valuable service through its Research Department. This important department is in close contact with Diamond Drill operations all over the world and is continuously investigating means whereby the maximum of results may be obtained at minimum costs. Their information is unprejudiced, for the Patrick Organization deals only in Black Diamonds for Core Drilling, supplying approximately 50% of all high grade carbons used throughout the world.

The Dependability of Patrick Carbon results from close study of drillers' needs and accounts for the preference it enjoys among experienced drill operators. They know it is Reliable.

The services of the Patrick Research Department, and of the entire Patrick Organization are freely at your disposal. It will be a pleasure to send you "Diamond Core Drilling in Oil Field Practice." You will find this practical little booklet well worth having. No charge, and of course, no obligation.

R. S. PATRICK
Duluth, Minnesota, U.S.A.
Cable Address, Exploring" Duluth

Southern Carbon Co.'s No. 11 Tensas, SE SE Sec. 31-21-4 ..... Cmtd. 12-in. at 150 ft. and 8-in. at 890 ft.
United Carbon Co.'s No. 2 Patton, 660 ft. N, 660 ft. E, SW cor. SE, Sec. 2-20-4 ..... Location.
United Carbon Co.'s No. 3 Patton, 660 ft. W, 660 ft. S, NE cor. SE, Sec. 2-20-4 ..... Location.

OUACHITA PARISH

Arkansas-Louisiana Pipe Line Co.'s (Ark. Nat. Gas Co.) No. 1 Kate Cole, 570 ft. S, 570 ft. E, NW cor. SW, Sec. 10-18-4 ..... Cmtd. 6-in. 2,124 ft.
Austin & Jordan's No. 1 H. M. McGuire, SW SW Sec. 11-18-3 ..... Fishing for bit; T.D. 850 ft.
Bahan & Bahan's No. 1 Frierson, 300 ft. S, 300 ft. E, NW cor. NE, Sec. 18-19-4 ..... Location.
J. B. Bond's No. 1 McEnery, 138 ft. N, 792 ft. E, SW cor. SE, Sec. 19-19-4 ..... Drlg. gumbo 1,200 ft.
B. J. Dickinson's No. 1 Stubbs, 379 ft. S, 76 ft. W, NE cor. NW, Sec. 27-19-4 ..... Location.
J. S. Herkness' No. 7 Bowles, 1,806 ft. E, 3,165 ft. S, NW cor. NE, Sec. 20-20-5 ..... Cmtd. 10-in. 192 ft; drlg. 650 ft.
Imperial O. & G. Co.'s No. 8 Stubbs, 1,792 ft. S, 550 ft. W, NE cor. NW, Sec. 18-19-4 ..... Location.
G. E. Jordan's No. 1 Anding, NW NE Sec. 18-18-5 ..... Plugged back to 2,234 ft; T.D 2,480 ft.
Jordan Drlg. Co.'s No. 4 J. Cole, 2,337 ft. N, 3,201 ft. W, SE cor., Sec. 1-18-3 ..... Derrick.
La Del Prod. Co.'s No. 49 fee, 1,320 ft. N, 924 ft. W, SE cor. SW, Sec. 30-20-5 ..... Location.
Mack & Pipes' No. 1 S. Wallace, 2,010 ft. S, 260 ft. E, NW cor., Sec. ..... Rig up.
Mack & Pipes' No. 1 A. White, 1,043 ft. E, 197 ft. S, NW cor. Sec. 7-18-5 ..... Cmtd. 6-in. 2,173 ft.
Magnolia Pet. Co.'s No. 2 fee 404, 660 ft. N, 660 ft. W, SE cor., Sec. 15-19-5 ..... Rig up.
Magnolia Pet. Co.'s No. 3 fee 404, 660 ft. N, 660 ft. E, SW cor., Sec. 11-19-5 ..... Location.
Magnolia Petroleum Co.'s No. 4 U. S., SE NW Sec. 20-19-5 ..... Cmtd. 6-in. 2,114 ft.
Southern Carbon Co.'s No. 53 fee, SE SE Sec. 23-19-4 .. Tested 800,000 ft. gas; waiting orders; T.D. 2,225 ft.
Southern Carbon Co.'s No. 54 fee, 660 ft. N, 674 ft. W, SE cor. NE, Sec. 13-19-4 ..... Location.
United Oil & Natural Gas Products Co. of Louisiana's No. 2 Cole, 660 ft. S, 594 ft. E, C, Sec. 26-20-4 ..... Derrick.
United Oil & Natural Gas Products Co. of Louisiana's No. 5 Guthrie, 6,896 ft. N, 6,022 ft. W, cor. Secs. 49, 26, and 25, Sec. 49-20-5 ..... Derrick.
West Virginia O. & G. Co.'s No. 8 W. Va., NW NW, Sec. 5-18-4 ..... Cmtd. 6-in. 2,148 ft.
H. L. Wood's No. 1 Miller, Sec. 18-18-5 ..... Rig up.

RED RIVER PARISH

J. H. Askew's No. 1 Lockett, NW SW Sec. 32-13-10 .... S.D. 1,630 ft.
Root Refineries, Inc.'s No. 1 Home State & Savings Bank, 330 ft. N, 330 ft. W, C, Sec. 8-13-10 ..... Spudded July 10; cmtd. 10-in. 173 ft; drill stem test 897-939 f.; coring 980 ft.

RICHLAND PARISH

W. C. Feazel's No. 1 Haynes & Moore, 275 ft. S, 1,439 ft. E, NW cor. NE, Sec. 17-16-6 ..... Derrick.
W. C. Feazel's No. 1 McCoy, NW SW Sec. 33-16-6 .... Cmtd. 6-in. 2,286 ft.
W. C. Feazel's No. 2 McCoy, 330 ft. E, 660 ft. N, SW cor., Sec. 33-16-6 ..... Location.
Feazel, Bendel & Brown's No. 1 J. H. Hunter, 660 ft. S, 660 ft. W, NE cor. NW, Sec. 23-16-6 ..... Location.
Hope Producing Co.'s No. 1 Eubanks, NW SE Sec. 26-17-6 ..... Drlg. shale 2,432 ft.
S. R. Humble's No. 1 Binion & Sartor, 660 ft. S, 660 ft. E, NW cor. SW, Sec. 22-17-6 ..... Spudded July 12; cmtd. 12-in. 197 ft; 8-in. 935 ft.
International Gas Products Co.'s No. 1 Beck, 660 ft. N, 660 ft. E, SW cor., Sec. 25-16-6 ..... Drlg. rock 1,562 ft.
Magnolia Pet. Co.'s No. 2 Hatch, 180 ft. N, 660 ft. W, SE cor. NE SE, Sec. 2-15-5 ..... Location.
Magnolia Pet. Co.'s No. 3 C. M. Noble, 370 ft. S, 105 ft. W, NE cor. SE NE, Sec. 35-16-5 ..... Drlg. rock 1,700 ft.
Magnolia Pet. Co.'s No. 4 C. M. Noble, 400 ft. S, 660 ft. W, NE cor. SE NE, Sec. 35-16-5 ..... Location.
M. L. Meredith's No. 1 Holdness, 1,980 ft. S, 990 ft. W, NE cor., Sec. 15-16-6 ..... Derrick.
Northern Louisiana Natural Gas Co.'s No. 2 Boykin, 1,034 ft. E, 911 ft. N, SW cor. SE, Sec. 20-17-6 ..... Derrick; rig moved.
Northern Louisiana Natural Gas Co.'s No. 3 Boykin, 733 ft. E, 911 ft. N, SE cor., Sec. 20-17-6 ..... Cmtd. 10-in. 908 ft.
Palmer Corp.'s No. 1 Eubanks, 1,100 ft. N, 350 ft. E, SW cor. SE NW, Sec. 26-17-6 ..... Location.
Palmer Corp.'s No. 1-A Jones, 660 ft. S, 660 ft. E, NW cor. NE SW, Sec. 22-17-6 ..... Cmtd. 9-in. 928 ft; drlg. 1,490 ft.
Southern Carbon Co.'s No. 1 Binion & Sartor, 660 ft. N, 1,320 ft. E, SW cor. SE, Sec. 21-17-6 ..... Drlg. shale 1,900 ft.
Southern Carbon Co.'s No. 1-B Tegola, SW NE Sec. 5-15-6 ..... Tested 200,000 ft. gas, 3,000 bbls. S.W.; waiting orders 2,477 ft.

SABINE PARISH—PLEASANT HILL

Bridges-Clark Oil Co.'s No. 1 Williams, 1,520 ft. E, 1,780 ft. N, SW cor., Sec. 33-12-10 ..... Spudded July 13; cmtd. 10-in. 103 ft; drlg. 830 ft.

UNION PARISH

Bahan & Bahan's No. 1 Peake, 1,007 ft. S, 126 ft. W, NE cor., Sec. 17-20-4 ..... Spudded July 10; cmtd. 12-in. 180 ft; 8-in. 836 ft.
Bahan & Bahan's No. 2 Peake, 1,425 ft. S, 100 ft. W. NE cor., Sec. 17-20-4 ..... Location.
Bahan & Bahan's No. 1 School fee, formerly No. 1 Barr, NW NW Sec. 10-20-2 ..... Rig up.
E. S. Hall's No. 1 Spencer, SE SE Sec. 36-21-3 ..... Fish. drill stem 2,081 ft.
Harrell & Jones' No. 1 Stripling, NE NE Sec. 17-20-4 .. Drlg. out bridge; T.D. 2,150 ft.
Imperial Oil & Gas Products Co.'s No. 1-A fee, NW NW Sec. 30-20-4 ..... Blew out and bridged; washing to bottom; T.D. 2,141 ft.
Interstate Natural Gas Co.'s No. 1 Parks, NW NW Sec. 23-20-3 ..... Bailing casing.
Natural Gas Producing Co.'s No. 3 Hale, 1,880 ft. S, 660 ft. W, NE cor., Sec. 11-21-3 ..... Spudded July 13; cmtd. 12-in. 174 ft; 8-in. 883 ft.

WEBSTER PARISH—COTTON VALLEY

Magnolia Petroleum Co.'s No. 1 McCook & Hibbler, C SW SW Sec. 22-21-10 ..... Cored red shale 6,466 ft.
Magnolia Petroleum Co.'s No. 5-A Robbins, SE SW Sec. 21-21-10 ..... Drlg. lime and shale 3,724 ft.
Ohio Oil Co.'s No. 43 Bodcaw, C NW SW Sec. 24-21-10 .. Drlg. anhydrite 4,256 ft.
Ohio Oil Co.'s No. 44 Bodcaw, NW NW Sec. 28-21-10 .... Drlg. sandy shale 3,780 ft.
Palmer Corp.'s No. 5 Tillman, NW NW Sec. 27-21-10 .... Anhydrite and shale 4,490 ft.
Standard Oil Co.'s No. 22-B Bodcaw, Sec. 28-21-10 ..... Drlg. lime 4,010 ft.

WEBSTER PARISH—SAREPTA AND SHONGALOO

J. W. Clark, trustee's, No. 1 W. B. Roseberry, W half SE SW Sec. 33-23-9 ..... Did not get 6⅝ cmtd; 1 joint burst while pumping down plug; could not pull; cmtd. 4½-in. 2,760 ft; T.D. 2,765 ft.
Pat Hudson's No. 1 Slack, SE NE Sec. 1-22-9 ..... Tested dry; waiting orders; T.D. 2,702 ft.
W. M. Kemp et als' No. 1 R. D. Campbell, 250 ft. S, 250 ft. W, NE cor. NW NE, Sec. 11-22-10 ..... Cmtd. 6-in. 2,645 ft.
Magnolia Petroleum Co.'s No. 1 Adkins, NE NW Sec. 4-22-9 ..... Waiting on standard rig with 1,000 ft. fluid in hole; T.D. 2,665 ft.
Magnolia Petroleum Co.'s No. 1 Sally Coyle, SE NE Sec. 2-22-11 ..... Cmtd. 6-in. 2,695 ft.
Magnolia Pet. Co.'s No. 1 Roseberry, 330 ft. N, 330 ft. W, SE cor. NW SE, Sec. 19-23-9 ..... Drlg. shale 1,546 ft.
Magnolia Pet. Co.'s No. 2 Roseberry, 330 ft. N, 330 ft. W, SE cor. NW SE, Sec. 19-23-9 ..... Location.
Woodmansee et als' No. 1 Boyd, 200 ft. S, 200 ft. E, NW cor. SE SW, Sec. 3-22-11 ..... Derrick.

WINN PARISH—URANIA

Gardner, Harter & Brown's No. 12 Harper, 200 ft. E, 150 ft. S, NW cor. NE NW, Sec. 26-10-1e ..... Spudded July 10; cmtd. 10-in. 101 ft; bailing to test; T.D. 1,200 ft.
Gardner, Hunter & Brown's No. 14 Harper, 500 ft. N, 500 ft. E, SW cor. SE SW, Sec. 23-10-1e ..... Location.

ARKANSAS

NEVADA COUNTY

C. F. Steele's No. 1 E. W. Groves, Sec. 21-14-20 ..... Did not abd. as dry hole at 2,150 ft; drilled to 2,513 ft; waiting orders.
Wright Oil Co.'s No. 4 Groves, Sec. 12-14-21 ..... Waiting on standard rig; T.D. 1,140 ft.

OUACHITA COUNTY—SMACKOVER

L. H. Hamilton's No. 1 Arnold & Doyle, SE SE Sec. 23-15-16 ..... Drlg. 1,800 ft.
Magna Producing Co.'s No. 5-B Linahan, NE cor. SE NW, Sec. 36-15-16 ..... Cmtd. 10-in. 84 ft; 6-in. 1,987 ft.
Marine Oil Co.'s No. 1-A Snyder, 105 ft. S, 105 ft. E. NW cor. NW SW, Sec. 34-15-15 ..... Spudded July 11; cmtd. 10-in. at 103 ft.
McDonald Bros.' No. 2-A Wilson, 330 ft. S, 330 ft. E, NW cor. NE SW, Sec. 25-15-18 ..... Rig up; old No. 2-A Wilson, now listed No. 1-C Wilson.
Phillips Pet. Co.'s No. 1 Scott, SE cor. SW NE, Sec. 34-15-15 ..... Rig up.
Skelly Oil Co.'s No. 1 Wood, 300 ft. N, 300 ft. E, SW cor. SE NE, Sec. 34-15-15 ..... Spudded July 13; cmtd. 10-in. at 85 ft.
Standard Oil Co.'s No. 1 Geo. Powell, 160 ft. N, 160 ft. W, C, Sec. 34-15-15 ..... Cmtd. 6-in. 1,939 ft.

UNION COUNTY—CHAMPAGNOLLE

Bailey & Trimble's No. 1 El Dorado Realty Co., Sec. 7-17-13 ..... Junked at 768 ft; skidding derrick.
O. W. Estes' No. 1 Hargett, 200 ft. N, 200 ft. E, SW cor. SW Sec. 13-17-14 ..... Location.
Gann and others' No. 1 Doss, Sec. 10-17-15 ..... Drlg. 2,995 ft.
Gann and others' No. 1 Schmidt, NW NW Sec. 15-17-14. Derrick.
Magnolia Pet. Co.'s No. 1 Gregory, NE cor. SW SW, Sec. 15-17-14 ..... Drlg. 2,416 ft.
Oilwell Corp.'s No. 2-E Perdue, NW NW, Sec. 9-17-15 .. Fish. for junk; T.D. 3,196 ft.
Rovenger Oil Corp.'s No. 3-B Perdue, 330 ft. S, 330 ft. W, NE cor. SE NE, Sec. 9-17-15 ..... Tested 30 joints oil, 2 S.W., 2,758-63 ft.
Cmtd. 6⅝-in. 2,752 ft. and short string 5 3-16-in. 2,757 ft.
Rushing and others' No. 1 Lynn, Sec. 7-17-13 ..... Tested S.W. 3,216-22 ft; arranging to test 3,296-3,309 ft.

UNION COUNTY—EL DORADO

J. P. Hawkins' No. 1 Goodwin, Sec. 8-17-15 ..... Tested 5,000,000 ft. gas, 8 ft. sand; cmtd. 6⅝-in; T.D. 2,193 ft.
Rice et als' No. 1 W. Raltey, 150 ft. S, 150 ft. E, NW cor. SW, Sec. 7-17-15 ..... Rig up.
Weisinger and others' No. 7 Goodwin, Sec. 31-17-15 ..... Fish. for 1 joint 5 3-16-in.; T.D. 2,150 ft.

UNION COUNTY—SMACKOVER

E. L. Chapman's No. 1 Purifoy, 585 ft. W, 150 ft. S, NE cor. NW SW, Sec. 2-16-16 ..... 400 ft. fluid in hole; waiting on standard rig; T.D. 2,150 ft.
Lovett et als' No. 1 Goodwin & Stone, Sec. 3-16-16 ..... Coring 2,833 ft.
A. H. Ramage's No. 1-A James, Sec. 6-16-15 ..... Installing vacuum system; T.D. 1,984 ft.

EAST TEXAS

MARION COUNTY

Pettit Oil Co.'s No. 3 Rives, N. G. Noll Sur. ..... Tested dry 2,279 ft; pulled liner to deepen.

HARRISON COUNTY

Mason et als' No. 1 Dean, J. W. Crofts Sur. ..... S.D. for orders; T.D. 2,165 ft.

PANOLA COUNTY

Calatex O. & G. Co.'s No. 4 W. C. Agurs, J. Womack Sur. . Cmtd. 6-in. 2,987 ft.
Eureka Nat. Gas Co.'s No. 1-B Gully, Jas. Matthews Sur. . Drlg. 2,125 ft.
Magnolia Pet. Co.'s No. 4 T. C. Adams, E. Jones Sur. .. Drlg. sandy shale 1,874 ft.
Magnolia Pet. Co.'s No. 3 Ella Barker, B. C. Jordan Sur. . Drlg. lime 2,370 ft.
Magnolia Pet. Co.'s No. 16 Carrie G. Steele, B. C. Jordan Sur. ..... Drlg. lime 2,466 ft.
Magnolia Pet. Co.'s No. 1 Leigh-Trosper, B. Stephenson Sur. ..... Old well drilling deeper; rig up; T.D. 2,618 ft.
D. Thomason's No. 3 G. C. Tiller, Jos. Story Sur. ..... Spudded July 5; cmtd. 10-in. 80 ft; Drlg. 150 ft.
Natural Gas Prod. Co.'s No. 9 Roquemore, B. C. Jordan Sur. ..... Fish. for drill stem; T.D. 2,286 ft.
Nemours Corp.'s No. 4 Tiller, E. F. Mitcheson Sur. ..... Drlg. 6-in. plug 2,265 ft; T.D. 2,816 ft.
The Texas Co.'s No. 12-A Adams, S. B. Lacy Sur. ..... Cmtd. 6-in. 949 ft.
Paul C. Warren's No. 1 F. M. McNeese, A. Booker Sur. .. Derrick.

WILDCAT OPERATIONS IN TEXAS PANHANDLE

(Continued from Page 90)

DONLEY COUNTY

Blue Bonnett Oil Co.'s No. 1 Ball, 1,075 ft. from N line, 985 ft. from E line, Sec. 22, Blk. E, D.&P.R.R. Sur. .. S.D. 1,912 ft.
Marine Oil Co.'s No. 1 Sawyer, C SW, Sec. 5, Blk G, G.C.&S.F. Sur. ..... Drlg. 3,415 ft.

GRAY COUNTY

Anderson et als' No. 1 Vallmert, 330 ft. from S, 330 ft. from W, Sec. 140, Blk. 3, I.&G.N. Sur. ..... Rigging up.
Amagray Oil Co.'s No. 2 Chapman, 330 ft. S and W NE cor. W½ SW, Sec. 9, Blk. 26, H.&G.N. Sur. ..... Show gas 2,025-2,130 ft and 2,230-50 ft; 30,000,000 ft. gas 2,315-20 ft; S.D. 3,045 ft.
British-American Oil Co.'s No. 2 Purviance, 330 ft. N and E SW cor. E 160 ac., Sec. 61, Blk. B-3, H.&G. N.R.R. Sur. ..... Location.
Champlin Ref. Co.'s No. 2 Jackson, 330 ft. each way from SE cor., W 100 ac., Sec. 60, Blk. B-2, H.&G.N. .. Drlg. 3,240 ft; sprayed 5 bbls; T.P. T.P. 2,920 ft.
Crabtree Drlg. Co.'s No. 1 B. F. Talley, SW NE, Sec. 114, Blk. M-2, B.S.&F. Sur. ..... S.D. 2,740 ft.
Constantine et als' No. 1 Dial, 330 ft. S and E of NW cor. W½ NW, Sec. 32, Blk. 25, H.&G.N. Sur. ..... S.D. 2,965 ft.; encountered salt water.
Danciger O. & R. Co.'s No. 2 Beck, 330 ft. N and E SW cor. NW, Sec. 28, Blk. B-2, H.&G.N. Sur. ..... Drlg. 1,850 ft.
Danciger O. & R. Co.'s No. 3 Beck, 330 ft. S and 990 ft. E NW, Sec. 28, Blk. B-2, H.&G.N.R.R. Sur. ..... Drlg. 2,580 ft.
Danciger et als' No. 11 Jackson, 330 ft. S and 1,320 ft. W, NE cor. NW, Sec. 88, Blk. B-2, H.&G.N. Sur. .... Location.
Danciger O. & R. Co.'s No. 1 Williams, 330 ft. from N, 330 ft. from E, S½ NW ..... Drlg. 1,985 ft.
Delaney & Associates Oil Co.'s No. 8 Jackson, 990 ft. S and 330 ft. E NW cor. E½ SW, Sec. 88, Blk. B-2, H.&G.N.R.R. Sur. ..... Drlg. 2,125 ft.

Bob Dunlap's No. 2 Morse, 990 ft. from N. 330 ft. from W, Sec. 2, Blk. 26 ..... Drlg. 350 ft.
Empire G. & F. Co.'s No. 1 Noel, C SE, Sec. 151, Blk. 3, I.&G.N.R.R. Sur. ..... Drlg. 1,785 ft.
Sines Q Reiger's, formerly Eslick et als' No. 1 Mrs. J. A. Hopkins, NW cor. W 80 ac. of SW, Sec. 84, Blk. B-2, H.&T.C. Sur. ..... S.D. 3,206 ft.
Gardner Bros. and Collins' No. 2 Saunders, 955 ft. from S and 330 ft. from E of W 68 ac. E½, J. G. Eustice Sur. ..... Location.
Gulf Prod. Co.'s No. 2 Saunders, 990 ft. N and E, SW cor. Sec. 3, Blk. 1, A.C.H.&B.R.R. Sur. ..... Drlg. 1,560 ft.
Herragan Oil Co.'s No. 1 Bradford, 330 ft. from N and 990 ft. from E. Sec. 123, Blk. B-2 ..... Rigging up.
Independent O. & G. Co.'s No. 1 Hollenbeck, 990 ft. each way from NE cor. NE, Sec. 176, Blk. 3, I.& G.N.R.R. Sur. ..... 5,000,000 ft. gas from 2,428-83 ft.; drlg. 3,175 ft; S.O. 3,170-75 ft.

Lyon et als' No. 1 Morse, 330 ft. N and E SW cor. N½ NE, Sec. 2, Blk. 26, H.&G.N.R.R. Sur. ..... Spudding.
Magnolia Pet. Co.'s No. 1 Wright, 330 ft. S and W lines S½ SW, Sec. 13, Blk. 3, I.&G.N. Sur. ..... Rigging up.
McLain Oil Co.'s No. 1 Back, 1,000 ft. from W line and 330 ft from N line, NW, Sec. 24, Blk. 25, H.&G.N. Sur. ..... 1,000,000 ft. gas 2,105-10 ft. and estimated 3,000,000 ft. gas 2,202-08 ft; show oil 2,565-90 ft. and 2,714 ft; drlg. 2,730 ft.

Midwest Explin. Co.'s No. 2-B Bowers, 1,320 ft. from N. 330 ft. from E, Sec. 93, Blk. B-2, H.&G.N.R.R. Sur. ..... Location.
Mordyan O. & G. Co.'s No. 2 Davis, 330 ft. from N, 990 ft. from E, S½ NW, Sec. 8, Blk. 1 ..... Spudding.
Nabob Oil Co.'s No. 2 Morse, 660 ft. from W line and 330 ft. from S line SW, Sec. 67, Blk. 25, H.&G.N. R.R. Sur. ..... Spraying 20 bbls. oil; 10,000,000 ft. gas 2,465 ft; C.O. 2,602 ft.

Oil Operators' No. 1 Bowers, 330 ft. from N, 330 ft E, Sec. 93, Blk. B-2, H.&G.N. Sur. ..... Drlg. 325 ft.
Operators Oil Co.'s No. 5 Cook-Faulkner, 990 ft. N and 330 ft. W, SE of W 90 ac., Sec. 30, Blk. B-2, H.&G. N. Sur. ..... Location.
Operators Oil Co.'s No. 6 Cook-Faulkner, 330 ft. S and E, NW cor., Sec. 30, Blk. B-2, H.&G.N.R.R. Sur. ..... Location.
Osborn et als' No. 1 Morse-H, 330 ft. N and E SW cor. S½ NE, Sec. 1, Blk. 26, H.&G.N.R.R. Sur. ..... Building rig.
Phillips Pet Co.'s No. 1 Eakin, 330 ft. from S. 330 ft. from W, Sec. 56, Blk. 25, H.&G.N.R.R. Sur. ..... Spudded.
Phillips Pet. Co.'s No. 1 Jackson, 330 ft. each way from NE cor. NE, Sec. 58, Blk. B-2, H.&G.N.R.R. Sur. ... Show oil 2,712-22 ft; 250 ft oil in hole; set 5-in. csg. 3,018 ft.

Phillips Pet. Co.'s No. 2-A Jackson, 425 ft. S and E, NW NE, Sec. 88, Blk. B-2, H.&G.N.R.R. Sur. ..... Drlg. 2,185 ft.
Phillips Pet. Co.'s No. 5 Jackson, 330 ft. S and 990 ft. E NW cor. S½ NE, Sec. 88, Blk. B-2, H.&G.N. Sur. .... 6,000,000 ft. gas 2,850 ft; set 5-in. csg. 2,900 ft; S.O. 2,876 ft.

Phillips Pet Co.'s No. 4 Palmer, 330 ft. N and W of E 831 ac., Sec. 31, Blk. B-2 ..... Drlg. 2,738 ft.
Phillips Pet. Co.'s No. 6 Palmer, 330 ft. S and W, NE cor., Sec. 31, Blk. 2, H.&G.N.R.R. Sur. ..... Location.
Phillips Pet. Co.'s No. 7 Palmer, 990 ft. N and 330 ft. E, SW cor. E 183.1 ac. of Sec. 31, Blk. B-2, H.&G. N. Sur. ..... Location.
Phillips Pet. Co.'s No. 8 Palmer, 1,650 ft. N and 330 ft. E of SW cor. E 83.1 ac., Sec. 31, Blk. B-2, H.&G. N.R.R. Sur. ..... Location.
Prairie O. & G. Co.'s No. 1 Langham, 330 ft. N and E SW, Sec. 1, Blk. B-2, H.&G.N.R.R. Sur. ..... Spudded.
Panhandle Ref. Co.'s No. 1 Saunders, 330 ft. S and E NW cor. E½ NE, Sec. 3, Blk. 1, A.C.H.&B. Sur. .... 15,000,000 ft. gas 2,150-2,320 ft.; show oil 2,663 ft.; T.D. 2,781 ft; shot 150 qts. from 2,630-2,759 ft. and 340 qts. from 2,640-2,759 ft.; bailed 2 bailers oil; C.O.

Panhandle Ref. Co.'s No. 2 Saunders, 330 ft. S and W NE cor. E½ NE, Sec. 3, Blk. 1, A.C.H.&B. Sur. .... S.D. 2,850 ft; shot 540 qts. 2,630-2,845 ft; C.O.

Quillian et als' No. 1 Barrett, 330 ft. from N. 330 ft. from E, Sec. 131, Blk. 3, H.&G.N. Sur. ..... Rig.
Ray Massie's No. 4 Chapman, 330 ft. each way from NW SE SW, Sec. 51, Blk. 25, I.&G.N. Sur. ..... Drlg. 2,925 ft; spraying 10 bbls. per hr. 2,720-50 ft.

Shamrock Oil Co.'s No. 1 Clayton, 150 ft. from NE cor. of S 80 ac. of W 140 ac. of E 277 ac., Sec. 50, Blk. 25, H.&G.N. Sur. ..... Spudded.
Shamrock Oil Co.'s No. 2-J Chapman, 450 ft. from N, 150 ft. from E of W 41 ac. of E 319 ac. ..... Drlg. 680 ft.
Sheil Pet. Corp's No. 3 McConnell, 330 ft. N and W SE cor. Sec. 174, Blk. 3, I.&G.N.R.R. Sur. ..... Drlg. 2,950 ft; 3,000,000 ft. gas 2,-935 ft.

Sherwood et als' No. 1 Gething, 330 ft. N and W SE cor N½ NE, Sec. 14, Blk. A-9, H.&G.N. Sur. ..... Drlg. 345 ft.
Skelly Oil Co.'s No. 1 Jackson, 330 ft. from S and W lines E½, Sec. 62, Blk. B-2, H.&G.N.R.R. Sur. ..... Drlg. 2,820 ft; show gas 2,394-2,-410 ft.

Skelly Oil Co.'s No. 2 Jackson, 330 ft. S, 2,990 ft. W of W 160 ac., Sec. 90, Blk. B-2 ..... Drlg. 2,265 ft.
Skelly Oil Co.'s No. 3 Jackson, 330 ft. from S and E lines of W 160 ac., Sec. 90, Blk. B-2, H.&G.N.R.R. Sur. ..... Drlg. 2,180 ft.
St. Clair Oil Co.'s No. 1 Dial, 330 ft. S and W NE cor. SE, Sec. 10, Blk. 25, H.&G.N.R.R. Sur. ..... Cellar.
St. Clair Oil Co.'s No. 1 Rowe, Sec. 32, Blk. R ..... S.D. 3,490 ft. hole full water.
St. Clair Oil Co.'s No. 1 L. S. Stockton, SE cor. Sec. 35, W. R. Lee Sur. ..... Spudded and S.D.
Sun Oil Co.'s No. 3 Purviance, 250 ft. from S, 287 ft. from W, Sec. 61, Blk. B-2, H.&G.N.R.R. Sur. ..... Standardizing 2,812 ft.
The Texas Corp.'s No. 10 Bowers, 330 ft. from N and E lines of E½, Sec. 89 ..... Drlg. 1,985 ft.
The Texas Corp.'s No. 11 Bowers, 330 ft. S, 990 ft. E of E½, Sec. 89 ..... Drlg. 2,365 ft.
The Texas Corp.'s No. 12 Bowers, 330 ft. from N and 330 ft. from W of NE, Sec. 63, Blk. B-2 ..... Set 8-in. csg. 2,207 ft.
The Texas Corp.'s No. 13 Bowers, 990 ft. from N and 330 ft. from W line E½, Sec. 89, Blk. B-2, H.&G. N.R.R. Sur. ..... Drlg. 1,390 ft.
The Texas Corp.'s No. 3 Bruce Bull, 330 ft. from N, 330 ft. from W. Sec. 2, Blk B-2 ..... Drlg. 455 ft.
The Texas Co.'s No. 3-B Chapman, 330 ft. S and E, NW cor. SE, Sec. 69, Blk. 25, H.&G.N.R.R. Sur. ..... Location.
The Texas Co.'s No. 2 Comb-Worley, 330 ft. N and 2,310 ft. W SE cor. S½ S line, Sec. 36, Blk. 3, I.&G.N. Sur T.D. 2,884 ft; 5,000,000 ft. gas 2,-835-50 ft. and 70,000,000 ft. gas 2,884 ft.

The Texas Co.'s No. 3 Comb-Worley, 330 ft. N and W SE cor. Sec. 36, Blk. 3, I.&G.N. Sur. ..... Building rig.
The Texas Co.'s No. 4 Comb-Worley, 330 ft. N and 1,736 ft. W SE cor. Sec. 36, Blk. 3, I.&G.N. Sur. .... Building rig.
The Texas Corp.'s No. 4 Cook-Faulkner, 1,973 ft. from W line and 330 ft. from N line of W 160 ac., Sec. 29, Blk. B-2, H.&G.N. Sur. ..... Fish. 2,835 ft.
The Texas Corp.'s No. 3 Cook-Faulkner, 1,313 ft. from W line and 330 ft. from N line of W 160 ac., Sec. 29, Blk. B-2, H.&G.N.R.R. Sur. ..... Drlg. 2,725 ft.
The Texas Co.'s No. 2 McLarty-B, at center of J. M. Rose Sur. ..... Drlg. 1,840 ft.
The Texas Co.'s No. 3 Shaw, 330 ft. N and E of SW of E 279 ac., Sec. 5, Blk. 1, A.C.H.&B. Sur. ..... Location.
The Texas Co.'s No. 4 Williams, 330 ft. each way from NE NE NW, Sec. 6, Blk. 1, A.C.H.&B. Sur. ..... Set 8-in. csg. 2,675 ft.
The Texas Co.'s No. 6 Williams, 330 ft. S and E, NW cor. NE, Sec. 6, Blk. 1, A.C.H.&B. Sur. ..... Location.
White Eagle O. & R. Co.'s No. 1 Faulkner, 330 ft. each way from SE cor. of E 60 ac., Sec. 29, Blk. B-2, H.&GN Sur ..... Rigging up.
P. A. Thorpe's No 1 Finley, 3,416 ft. from S and 330 ft. from W of B. F. Chaney Sur. ..... Rigging up.
Wilcox-Pampa Oil Co.'s No. 8 Comb-Worley, 330 ft. NW SE SE, Sec. 60, Blk. 3, I.&G.N. Sur. ..... C.O. 2,440 ft.
Wilcox-Pampa Oil Co.'s No. 9 Combs-Worley, 330 ft. S and E, NW cor. NE SW, Sec. 35, Blk. 3, I.&G.N.R. R. Sur. ..... Location.

HOCKLEY COUNTY

World Oil Co.'s No. 1 Ellwood, 320 ft. from N and W lines, League 7, Wilbarger County School lands; elevation 3,363 ft; contract depth 5,000 ft. ..... Drlg. 2,550 ft.

HARTLEY COUNTY

Amarillo Oil Co.'s No. 9 Lee Bivins "A," C NW, Sec. 6, Blk. 21 ..... Show oil 3,780 ft.; 100,000 ft. wet gas 3,990 ft.; T.D. 4,145 ft.; to plug back.

HUTCHINSON COUNTY

Amarillo Oil Co.'s No. 2 Ingerton-A, 1,650 ft. from N line, 1,071 ft. from E line, Sec. 41, H.&T.C.R.R. Sur .. 50,000,000 ft. gas 1,300 ft; set 8-8-in. csg. 2,300 ft; 500,000 ft. gas 1,660 ft.

Alamosa Oil Co.'s No. 4 Sanford, 310 ft. S and 320 ft. W, NE cor. of N 160 ac. of S 240 ac., Sec. 85, Blk. 46, H.&T.C. Sur. ..... Location.
Danciger et als' No. 2 Moore, 330 ft. from E, 990 ft. from S, W½ SE, Sec. 125, Blk. 4 ..... Drlg. 1,980 ft.
Holmes et als' No. 2 Quinn, 990 ft. from S line and 330 ft. from E line SW, Sec. 7, Blk. 9, I.&G.N. Sur. ..... Drlg. 2,175 ft.
Holmes et als' No. 2 Moore, 990 ft. N and 330 ft. E, SW cor. E½ SE, Sec. 125, Blk. 4, I.&G.N.R.R. Sur. .. Location.
Huey et als' No. 3 Smith et al, 330 ft. from N and 600 ft. from W of S 40 ac. of E 100 ac., SE, Sec. 12, Blk. Y ..... Spudded and S.D.
Marland Oil Co.'s No. 2 Reimer, 3,753 ft. S and 450 ft. E of NW cor., Sec. 31, Blk. 47, H.&T.C. Sur. ..... Cellar.
McMan O. & G. Co.'s No. 2 Sanford, 300 ft. from W line and 315 ft. from S line N 274 ac., Sec. 83, Blk. 46, H.&T.C. Sur. ..... Drlg. 2,805 ft.
Midwest Explin. Co.'s No. 2 Moore, 330 ft. from S, 1,320 ft. from W, Sec. 125, Blk. 4, H.&G.N. Sur. ..... Spudding.
Oil Operators' Trust Co. and Marland's No. 2 J. M. Stanford-B, Sec. 82, Blk. 46, H.&T.C. Sur. ..... S.D. 3,039 ft; C.O. to run csg.
O. B. Penney's No. 2 Johnson Bros., 330 ft. from S line, 330 ft. from W line W½ NE, Sec. 35, Blk. Y, A.&B. Sur. ..... Drlg. 2,175 ft; 31,000,000 ft. gas 1,990 ft.

Pennowa Oil Co.'s No. 3 Smith, 330 ft. S and W, NW NE, Sec. 7, Blk. Y, N.&C. Sur. ..... Location.
Phillips Pet. Co.'s No. 1 Cheatham, 427 ft. N and 330 ft. W SE cor. SE SE, Sec. 38, Blk. Y ..... Drlg. 1,500 ft.
Phillips Pet. Co.'s No. 1 Johnson Bros., 330 ft. from N and W lines NW, Sec. 34, Blk. Y, A.&B. Sur. ..... Fish. 2,972 ft; pay 2,951-72 ft; initial prod. 30 bbls. oil and 5,-000,000 ft. gas.

Phillips Pet. Co.'s No. 1 Johnson-Kotz, 350 ft. N and 330 ft. E SW W ½ SW, Sec. 35, Blk Y ..... Drlg. 720 ft.
Phillips Pet. Co.'s No. 4 Johnson, Sec. 28, Blk. Y, A.&B. Sur. ..... Drlg. 2,420 ft; 2,000,000 ft. gas.
Phillips Pet. Co.'s No. 6 (Florence), 330 ft. each way from S and W lines, E½ ..... Drlg. 2,480 ft.
Prairie O. & G. Co.'s No. 4 Cal Merchant, 5,612 ft. S 330 ft. E, NW, Sec. 37, Blk. 47, H.&T.C.R.R. Sur. .. Drlg. 610 ft.
Prairie O. & G. Co.'s No. 4 Shaw, 330 ft. S and 990 ft. W NE cor., Sec. 27, Blk. Y ..... Set 10-in. csg. 1,955 ft.
Skelly Oil Co.'s No. 8 Whittenburg, 330 ft. from S and 2,230 ft. from W, Sec. 22, Jameson Sur. ..... Set. 10-in. csg. 889 ft; S.D.
Skelly Oil Co. No. 7 Whittenburg, 330 ft. from S and 1,570 ft. from W lines, Sec. 22, Jameson Sur. ..... Drlg. 2,440 ft.
The Texas Company's No. 2 Quinn, 990 ft. N, 330 ft. E SW cor. E½, Sec. 7, Blk. 9, I.&G.N. Sur. ..... Drlg. 1,410 ft.

KING COUNTY

Huff Oil Co.'s No. 1 Martin, 1,320 ft. from N line and 1,320 ft. from E line, Sec. 171, Blk. F. H.&T.C. Sur. .. Rig.

LAMB COUNTY

Dan Freed et als' No. 1 Ellwood, CWL, Sec. 9, Blk. T, T. A. Thompson Sur. ..... Drlg. 1,500 ft.

LIPSCOMB COUNTY

Brown et als' No. 1 Box T Ranch, SW NE, Sec. 612, H.&T.C. Sur. ..... Drlg. 3,210 ft.
Okla. Public Service Co.'s No. 1 C. W. Jones, NE SW, Sec. 100, H.&T.C. Sur. ..... Drlg. 4,570 ft.

LUBBOCK COUNTY

Center Oil Co.'s No. 1 Bowles Ranch ..... Small show oil 1,133-40 ft.; sand; fishing 4,167 ft.

MOORE COUNTY

Amarillo Oil Co.'s No. 1 Read-A, C NW, Sec. 14, Blk. 13-12, D.&P. Sur. ..... Drlg. 1,275 ft.
Amarillo Oil Co.'s No. 1 Perkins-A, 330 ft. each way out of NW cor. NE, Sec. 76, Blk. 3 ..... Drlg. 450 ft.
Amarillo Oil Co.'s No. 2 Warrick, C S 160 ac., Sec. 92, Blk 46, H.&T.C. Sur. ..... 60,000,000 ft. gas from 1,580-2,910 ft; show oil; T.D. 3,440 ft; plugging back for gas well.

Barnsdall Oil Co.'s No. 1 Harrison, 330 ft. from N line and 330 ft. from E line S½ NE, Sec. 5, Blk. M-2 .... S.D. 3,440 ft.
Red River Gas Co.'s No. 1 J. M. Shelton, 330 ft. each way from SE cor., Sec. 52, Blk. 3, G.&M. Sur. ..... Location.
Dana O. & G. Co.'s No. 1 Anthony, C NW, Sec. 260, Blk 44, H.&T.C.R.R. Sur. ..... Rig.
Dana O. & G. Co.'s No. 1 Road-A, C NW, Sec. 14, Blk. B-12 ..... Location.
Fritch O. & G. Co.'s No. 1 Lee Burns, C NE 40 ac. of N 160 ac., Sec. 4, Geo. Mahan Sur. ..... Drlg. 1,565 ft; 2,000,000 ft. gas 1,-550-65 ft.

Phillips Pet. Corp.'s No. 5 Sneed, 990 ft. N and W. SE cor. E 500 ac. of S 572 ac. of N 892 ac. of M. Robinson Sur. ..... Location.
Phillips Pet Co.'s No. 1 Taylor, 330 ft. N and E SW cor. E½ NW cor. Sec. 244, Blk. 3-T, T.&N.O. Sur. ... 5,000,000 ft. gas from 2,825-2,935 ft.; 10,000,000 ft. gas 3,020 ft.; 20,000,000 ft. gas 3,040 ft.; reset 6-in. csg; T.D. 3,506 ft; to plug back for gas well.

Phillips' No. 1 Wilson, 330 ft. each way out of NW cor. S½ SE, Sec. 157, Blk. 3-T ..... Standardizing at 2,598 ft.
Skelly Oil Co.'s No. 8 Armstrong & Byrd, 2,920 ft. S and 3,752 ft. of NW cor., Proctor Sur. ..... 27,000,000 ft. gas 2,550-2,760 ft.; 47,000,000 ft. gas 2,550-2,760 ft; fish. 2,990 ft.

Skelly Oil Co.'s No. 9 Armstrong & Byrd, 2,220 ft. S and 990 ft. E NW cor., Proctor Sur. ..... 9,000,000 ft. gas 2,695-2,720 ft; drlg. 2,995 ft.

MOTLEY COUNTY

Explin. Co.'s No. 5 Matador, C, Sec. 45, Blk. J-B, C. B.&C.N.G.R.R. Sur. ..... S.D. 529 ft.
Explin. Co.'s No. 6 Matador, 330 ft. from N line and 330 ft. from E line, Sec. 132, Blk. M ..... C.O. 150 ft.
Matador Oil Corp.'s No. 1 Owen, C NE, Sec. 10, Blk. G, B.&B. Sur. ..... Rig.

RANDALL COUNTY

W. A. Patterson's No. 1 Palo Duro, Sec. 60, Blk. K-14 ... S.D. 1,250 ft.

ROBERTS COUNTY

Big Bend Oil Co.'s No. 1 Ledrick, Sec. 7, Blk. 5-A ..... S.D. 5,975 ft.

WHEELER COUNTY

Anderson's No. 1 Meiners, C SW SE, Sec. 71, Blk. 17, H.&G.N.R.R. Sur. ... 9,000,000 ft. gas 1,710-70 ft; S.D. 1,770 ft.
Angus et als' No. 1 Linkey, C NE NW, Sec. 126, Blk 23.. S.D. 450 ft.
Byrens et als' No. 1 Johnson, SW cor. NE, Sec. 88, Blk. A-5, H.&G.N. Sur. ... S.D. 2,920 ft.
Fain et als' No. 2 Binkley & Cain, C SE, Sec. 5, Blk. 24, H.&G.N. Sur. ... Drlg. 1,025 ft.
Gillespie et als's No. 1 McMurtrey, C NW SE, Sec. 67, Blk. 17, H.&G.N. Sur. ... 10,000,000 ft. gas 1,810-1,975 ft; drlg. 2,185 ft.
Johnson et als' No. 1 Hicks, C NW SW, Sec. 49, Blk. 17, H.&G.N.R.R. Sur. ... Drlg. 1,150 ft.
Johnson & Wisch Kamper's No. 1 West, C NE NW, Sec. 30, Blk. 17, H.&G.N. Sur. ... Drlg. 1,210 ft.
Lone Star Gas Co.'s No. 3 Burcham, C NE SE, Sec. 91, Blk. 17, H.&G.N. Sur. ... Spudded.
Martin & Dubois' No. 1 Otis Sasher, C SW SE, Sec. 69, Blk. 17, H.&G.N. Sur. ... Set 10-in. csg.; T.D. 1,240 ft.
Osage Dev. Co.'s No. 1 Purcell, C SE NE, Sec. 51, Blk. 17, H.&G.N. Sur. ... Location.
Upham Gas Co.'s No. 3 Gooch, C SW SW, Sec. 81, Blk. 23 ... S.D. 1,387 ft; 28,000,000 ft. gas 1,295-1,380 ft.
Upham Gas Co.'s No. 1 Shelton, C SE NE, Sec. 22, Blk. 24, H.&G.N.R.R. Sur. ... Rigging up.
Vaughn et als' No. 1 Ackley, 330 ft. from N, 330 ft. from W. Sec. 4, Blk. 27, H.&G.N. Sur. ... Rigging up.

WILDCAT OPERATIONS IN WEST TEXAS

(Continued from Page 89)

CRANE COUNTY

Duffey & Skelly's No. 1 University, 2,310 ft. from S, 330 ft. from E Sec. 45, Blk. 30, University Land... Top salt 1,015 ft.; drlg. 2,400 ft.
Gulf Prod. Co.'s No. 66 McElroy, 1,442 ft. from N and 4,950 ft. from W of Sec. 200, Blk. F, C.C.S.D.& R.G.N.G. ... Drlg. 2,200 ft.
Gulf Prod. Co.'s No. 7 Waddell, Sec. 10, Blk. B-23, 2,640 ft. from S, 330 ft. from W ... Top salt 1,108 ft.; slight show gas 2,285 ft.; 1,000,000 ft. gas at 3,065 ft.; top lime 2,972 ft.; shut down 3,610 ft.; 500 ft. water; preparing to pump.
Humble Oil & Ref. Co.'s No. 1-D University, 2,310 ft. from N and 1,650 ft. from W Sec. 34, Blk. 30 ... Drlg. 1,905 ft.
Prairie Oil & Gas Co.'s No. 7 University, 330 ft. from N, 330 ft. from W Sec. 39, Blk. 30 ... Location.
Prairie Oil & Gas Co.'s No. 8 University, 330 ft. from S, 330 ft. from W, Sec. 39, Blk. 30 ... Drlg. 2,280 ft.
T. P. Coal & Oil Co.'s No. 2 University, 2,310 ft. from S, 1,650 ft. from W Sec. 34, Blk. 30, University Land.. Location.
Tidal Oil Co.'s No. 9 University-I, 1,320 ft. from E, 771 ft. from S. Sec. 43, Blk. 30 ... Top salt 1,140 ft.; drlg. 2,825 ft.
Church-Weekly's No. 3 Dowell-University, 990 ft. from S and W Sec. 39, Blk. 30 ... Drlg. 2,085 ft.
Warner-Quinlan's No. 4 Dowell-University, 990 ft. from S, 1,650 ft. from W Sec. 39, Blk. 30 ... Drlg. 1,185 ft.
Warner-Quinlan's No. 5 University-Davis, 2,310 ft. from S and W Sec. 39, Blk. 30 ... Drlg. 530 ft.

CROCKETT COUNTY

Eppenaur et al's No. 2 Noelke, 500 ft. N and 1,250 ft. E of SE cor. Sec. 64, Blk. 1, I.&G.N.R.R. Sur.... Shut down 650 ft.
Lewis & Daniels' No. 1 Pecos River Bed, 19 yards S and 37 degrees E of NW cor. Sec. 33, Blk. 1, I.&G.N. Sur.. Shut down 1,135 ft.
W. W. Donnelly & Young's No. 1 Shannon, SW SW SE Sec. 42, Blk. BB, T.C.R.R. Sur. ... Shut down 910 ft.
W. W. Donnelly & Young's No. 1 Middlebuster, C Sec. 11, Blk. 9, D.&S.E. Sur. ... 7,000,000 ft. gas at 1,663 ft.; shut down 1,755 ft.
Moncrief's No. 1 Andrews, 1,320 ft. from S, 1,170 ft. from W of Sec. 57, Blk. UV, G.C.&S.F.R.R. ... Drlg. 643 ft.
W. A. Moncrief et al's No. 1 Massie, 1,170 ft. N and 1,320 ft. E of SW cor. Sec. 47, Blk. UV, G.C.&S.F. Sur. ... 3,000,000 ft. gas 1,198 ft.; total depth 1,450 ft.; plugged back 1,441 ft. to pump; top pay 1,417 ft.; swabbed 30 bbls. oil.
Moncrief's No. 3 Todd, 330 ft. from S and E Sec. 29, Blk. VV ... Location.
Taylor-Link's No. 3 Powell, 1,000 ft. S of No. 2, Sec. 52, Blk. BB, E.L.&R.R. Sur. ... Rigging up.

CULBERSON COUNTY

Deep Rock Oil Co.'s No. 3 Kloh, 380 ft. N and 1,388 ft. W Sec. 39, Blk. 59 ... Moving in material.
Hickey & Stiver's No. 1 C. O. Finley, 600 ft. N and 1,980 ft. W Sec. 20, Blk. 82 ... Small oil show 1,331 ft.; shut down 2,275 ft.; hole full water; elevation 3,874 ft.
West Coast Oil & Exploration Co.'s No. 1 McGregor, C NW Sec. 14, Blk. 81 ... Total depth 720 ft.; straightening crooked hole.
Scott & Dittman's No. 1 Miller, 1,160 ft. N and 2,480 ft. E Sec. 1, Blk. 97, Public School Land ... Rainbow 1,056 ft.; 300 ft. sulphur water 1,725 ft.; oil show 2,528 ft.; hole full sulphur water; shut down 2,540 ft.; oil show 2,526 ft.; pulled 6-in. casing and shut down.

ECTOR COUNTY

Anderson's No. 1 fee, 1,320 ft. E along N line Sec. 19, and 150 ft. N at right angles with line Sec. 18, Blk. B-16, Public School Land ... Location.

EL PASO COUNTY

Sillex's No. 1 Malone, 2,200 ft. SW and NW Sec. 46, J. M. Day, Sur. ... Shut down 1,010 ft.

EDWARDS COUNTY

A. M. Griffith's No. 1 Wardlow, Sec. 60, V-8, J. C. Clift Sur. ... Shut down 2,395 ft.

FISHER COUNTY

Bickerstaff et al's No. 1 McWhirter, 2,640 ft. E and 150 ft. N of SW cor. of Sec. 295, Blk. 2, H.&T.C. Sur.... Shut down 2,000 ft. for orders.
Cranfill & Reynolds' No. 1 Flanagan, 990 ft. from S and W of Sec. 200, Blk. 1, B.B.B.&C. Sur. ... Drlg. 1,530 ft.
Magnolia Pet. Co.'s No. 1 Lee, Sec. 357, 2,310 ft. from N and 4,286 ft. from W ... Drlg. 1,472 ft.
Mesa Oil Co.'s No. 1 Griffin, 849 ft. N and 465 ft. E of NE cor. Sec. 20, School Land ... Shut down 2,985 ft.
Midwest Oil Co.'s No. 1 Steele, 660 ft. from S, 440 ft. from W Sec. 210, Blk. 1 ... Location.
J. H. Riley's No. 1 Bloch, Sec. 4, Blk. 2, 250 ft. from N, 990 ft. from W, English Sur. ... Location.
Roeser & Pendleton's No. 1 Johnson, 330 ft. from N, 3,870 ft. from W Sec. 71, Blk. 1, H.&T.C. ... Drlg. 255 ft.
Roeser & Pendleton's No. 2 Haught, Sec. 191, Blk. 1, 590 ft. from N and 1,320 ft. from W ... Drlg. 2,120 ft.
The Texas Company's No. 2 Stephens, 330 ft. from N and W of S half SW Sec. 79, Blk. 1, H.&T.C.R.R. Sur. ... Drlg. 305 ft.

GARZA COUNTY

Bell Thompson's No. 1 Tuffing, 330 ft. from S, 2,310 ft. from E Sec. 10, Blk. 6, H.&G.N. ... Location.
Emerald Oil Co.'s No. 1 J. C. Bargsley, 2,310 ft. from E and 330 ft. N of SW cor. Sec. 135, Blk. 5, H.&G.N... Fishing 1,800 ft.
Gulf Prod. Co.'s No. 1 Street, C Sec. 7, Blk. 8, H.&G.N. R.R. Sur. ... Drlg. 2,935 ft.
Paul Steed et al's No. 1 Boren, Sec. 136, Blk. 5, 330 ft. from N, 990 ft. from E, H.&G.N.R.R. Sur. ... Location.

GLASSCOCK COUNTY

A. & F. Oil Co.'s No. 1 Turner, 2,310 ft. from N and 330 ft. from E Sec. 19, Blk. 33, Twp. 2s, T.&P. Sur. ... Underreaming 2,510 ft.
California Co.'s No. 1 Turner, 2,310 ft. from N and E Sec. 46, Blk. 33, Twp. 2s ... Drlg. 1,110 ft.
Chas. Daniel et al's No. 1 Meek, 2,310 ft. W and 1,600 ft. N of SE cor. Sec. 7, Blk. 34, Twp. 3s, T.&P. Sur.. Shut down 500 ft.
Gibson-Johnson's No. 1 Dean, 1,320 ft. S and E of NW cor. Sec. 2, Blk. 33, Twp. 2s, T.P.R.R. Sur. ... Top salt 1,075 ft.; top lime 2,560 shut down 3,454 ft.
Houston Oil Co.'s No. 1 McDowell, 330 ft. from N and 2,310 ft. from E Sec. 30, Blk. 33, Twp. 2s ... Drlg. 2,095 ft.
Kirby Pet. Co.'s No. 1 Phillips, Sec. 23, Blk. 33, Twp. 2s, 330 ft. from N and 2,310 ft. from W ... Drlg. 1,480 ft.
Lion Oil & Ref. Co.'s No. 1 Coffee, 330 ft. from N and E Sec. 22, Blk. 33, Twp. 2s, T.&P.R.R. Sur. ... Location.
Midwest Oil Co.'s No. 1 Edwards, 330 ft. from S, 2,259 ft. from E, Sec. 20, Blk. 34, T.&P.R.R. Sur. ... Drlg. 770 ft.
Penn Oil Co.'s No. 1 Schaffer, 1,320 ft. from S, 2,640 ft. from E Sec. 4, Blk. 32, Twp. 3s, T.P.R.R. Sur. ... Drlg. 865 ft.
Texas State Oil Co.'s No. 1 Coffey, 330 ft. from S and 990 ft. from E Sec. 19, Blk. 34, Twp. 2s ... Drlg. 2,235 ft.
World Oil Co.'s No. 2-C McDowell, Sec. 21, Blk. 34, Twp. 2s, 990 ft. from N, 2,310 ft. from W ... Building rig.

HOCKLEY COUNTY

World Oil Co.'s No. 1 Elwood, 320 ft. from N and W line, League 7, Wilbarger County School Land ... Drlg. 2,690 ft. anhydrite and lime shells.

HOWARD COUNTY

Amerada Pet. Corp.'s No. 11 Roberts, 650 ft. from N and 200 ft. from E Sec. 128, Blk. 29, W.&N.W.R.R. Sur... Shut down 1,360 ft.
Amerada Pet. Corp.'s No. 2 Stewart, 330 ft. from S, 990 ft. from E Sec. 130, Blk. 29, W.&N.W.R.R. Sur.... Drlg. 995 ft.
California Co.'s No. 7 Roberts, 874 ft. S, 990 ft. E Sec. 137, Blk. 29, W.&N.W.R.R. Sur. ... Shut down 1,750 ft.
O. Chalk's No. 4 fee, 1,650 ft. S and W of Sec. 124, Blk. 29, W.&N.W.R.R. Sur. ... Drlg. 1,160 ft.
Cranfill & Reynolds' No. 2 Abrams, 243 ft. from W, 660 ft. N of No. 1 Sec. 3, Blk. 32, Twp. 2s ... Drlg. 565 ft.
Cosden Oil Co.'s No. 5 Roberts-A, Sec. 129, Blk. 29, 200 ft. from S and 2,440 ft. from E ... Drlg. 1,490 ft.
F. H. E. Oil Co.'s No. 11-B Dora Roberts, 1,700 ft. S and 2,310 ft. E of NW cor. Sec. 137, Blk. 29, W.&N.W. Sur. ... Fishing 2,515 ft.
Fuhrman Pet. Co.'s No. 1 Read, 2,310 ft. N and 330 ft. E of SW cor. Sec. 41, Blk. 32, Twp. 1n, T.&P.R.R. Sur.. Drlg. 1,140 ft.; top salt 935 ft.
Gibson & Johnson's No. 1 Read, 660 ft. N and W of SE cor. Sec. 47, Blk. 30, Twp. 1n, T.&P.R.R. Sur.... Top pay 2,703-08 ft.; total depth 2,949 ft.; 1,500 ft. oil in hole; plugged back 2,730 ft.; shut down.
Gulf Prod. Co.'s No. 6 Clay, 1,170 ft. from N and 150 ft. from W Sec. 155, Blk. 29, W.&N.W.R.R. Sur. ... Shut down 1,866 ft.
Howard Oil Corp.'s No. 2 Kloh et al, 990 ft. from S and E of NW Sec. 5, Blk. 32, Twp. 2s ... Cleaning out 2,330 ft.
Howard Oil Corp.'s No. 3 Abrams, 990 ft. from N and 330 ft. from W of Sec. 5, Blk. 32, Twp. 2s, T.&P. R.R. Sur. ... Drlg. 1,327 ft.
Laurel Oil & Gas and Cosden Oil Co.'s No. 11 Roberts, 2,490 ft. N and 450 ft. W of SE cor. Sec. 136, Blk. 29, W.&N.W.R.R. Sur. ... Location.
Laurel Oil & Cosden Oil Co.'s No. 13 Roberts, 1,700 ft. N and 330 ft. W of SE cor. Sec. 136, Blk. 29, W.&N.W.R.R. Sur. ... Location.
Laurel Oil & Cosden Oil Co.'s No. 14 Roberts, 1,600 ft. N and 330 ft. W of SE cor. Sec. 136, Blk. 29, W.&N.W.R.R. Sur. ... Location.
Magnolia Pet. Co.'s No. 13 Dora Roberts, 2,440 ft. N and 1,650 ft. E of SW cor. Sec. 136, Blk. 29, W.&N.W. Sur. ... Shut down 2,927 ft.
Marland Prod. Co.'s No. 3 Clay-F, 250 ft. S and 660 ft. W of NE cor. Sec. 138, Blk. 129, W.&N.W.R.R. Sur.. Shut down 2,675 ft. with show oil 2,595-2,675 ft.
McGinley & Seigler's No. 1 Barnett, 330 ft. S and E of NW cor. Sec. 928, Blk. 29, W.&N.W.R.R. Sur. ... Drlg. 1,345 ft.
McGinley et al's No. 2 Hyman, Sec. 92, Blk. 29, W.& N.W.R.R. Sur. ... Rigging up.
Merriwether's No. 1 Smith, 150 ft. from S, 2,490 ft. from W Sec. 45, Blk. 33 ... Shut down 425 ft.
Merrick-Bristow's No. 9 Roberts, 1,155 ft. from S, 220 ft. from W Sec. 137, Blk. 29, W.&N.W.R.R. Sur. ... Location.
Merrick & Lamb's No. 8 Clay, 1,120 ft. from S, 1,100 ft. from E line of Sec. 126, Blk. 29, W.&N.W.R.R. Sur. ... Shut down 1,671 ft.
Moody Oil Co.'s No. 16-B, 990 ft. from N, 330 ft. from W Sec. 137, Blk. 29, T.&P. ... Location.
Moody Oil Co.'s No. 17-B, Sec. 137, Blk. 29, 1,650 ft. from N, 330 ft. from W, W.&N.W.R.R. ... Sppudding.
Moody Oil Corp.'s No. 20-E, 1,650 ft. S, 2,310 ft. W of NE Sec. 136, Blk. 29, W.&N.W.R.R. Sur. ... Location.
Moody Oil Co.'s No. 23-B, 990 ft. from N and W of Sec. 137, Blk. 29 ... Location.
Moody Oil Co.'s No. 19-E Roberts, 190 ft. from N and 2,310 ft. from E Sec. 136, Blk. 29 ... Location.
Owen & Sloan's No. 13 Roberts, 1,700 ft. from S and 330 ft. from E Sec. 136, Blk. 29, W.&N.W. ... Drlg. 100 ft.
Owen & Sloan's No. 14 Roberts, 1,600 ft. from S. 330 ft. from E Sec. 136, Blk. 29, W.&N.W. ... Location.
Plymouth Oil Co.'s No. 4 Abrams, 330 ft. from N and 1,650 ft. from W Sec. 5, Blk. 32, Twp. 2s ... Drlg. 350 ft.
Pure Oil Co.'s No. 1 Scrivner, 990 ft. E, 330 ft. N of SW Sec. 4, Blk. 32, Twp. 2s, T.&P.R.R. Sur. ... Total depth 2,302 ft.
Shell Pet. Corp.'s No. 1-B Settles, 1,650 ft. from S, 2,310 ft. from W Sec. 135, Blk. 29, W.&N.W.R.R. Sur.... Drlg. 100 ft.
Shell Pet. Corp.'s No. 1 Kloh-Rumsey, 2,310 ft. from S and 330 ft. from E Sec. 13, Blk. 33, Twp. 2s, T.& P.R.R. Sur. ... Location.
Shell Pet. Corp.'s No. 2-A Roberts, 1,320 ft. from N, 1,650 ft. from W Sec. 156, Blk. 29, W.&N.W.R.R. Sur. ... Location.
Simms Oil Co.'s No. 1 Clay, 330 ft. from S, 2,310 ft. from W Sec. 127, Blk. 29 ... Rigging up.
Superior Oil Co.'s No. 14 Dora Roberts-B, 2,310 ft. E and 280 ft. S of NW cor. Sec. 127, Blk. 29, W.&N.W. Sur. ... Shut down 2,601 ft.
Ward Oil Co.'s No. 7 Roberts, 2,310 ft. N and 380 ft. E of SW cor. Sec. 137, Blk. 29, W.&N.W.R.R. Sur.... Shut down 2,645 ft.; top pay 2,563 ft.; fishing.
Ward Oil Co.'s No. 8 Roberts, 1,485 ft. from S, 220 ft. from W Sec. 137, Blk. 29 ... Location.

HUDSPETH COUNTY

Western States Oil Co.'s No. 1 Lockhart & Roseborough, C SE Sec. 5, School Blk. 21 ... Drlg. 1,681 ft.; white lime.
California Co.'s No. 1 University, 3,821 ft. N and 2,554 ft. E of SW cor. Sec. 19, Blk. E ... Total depth 1,640 ft.; estimated 1,000 bbls. fresh water daily.
George Richardson's No. 1 Faxton, 2,640 ft. from N and W Sec. 9, Blk. 16 ... Rigging up standard tools and shut down.
Western States Oil Co.'s No. 1 Moore, C SE Sec. 16, Blk. 71, Twp. 6, T.&P. Sur. ... Shut down 2,685 ft.; fishing job.
Western States Oil Co.'s No. 1 Gardner & Moseley, NE NW Sec. 12, Blk. 18 ... Shut down 3,140 ft.; fishing.

IRION COUNTY

Baker & Hodges' No. 1 Tankersley, 1,320 ft. from S, 150 ft. from W Sec. 23, G.C.&S.F. ..... Drlg. 435 ft.
Crawford Oil Co.'s No. 1 Williams, 460 ft. from N, 150 ft. from W Subd. 8 ..... Spudded and shut down.
Kimbrough & Flinchbaugh's No. 1 Tankersley, 160 ft. S and 200 ft. W of NE cor. S half Sec. 712, Ford Willig Sur. ..... Show oil 1,318-29 ft.; total depth 1,335 ft.; averaging 60 bbls. daily 37 degrees gravity oil.
Pecos Valley Oil Co.'s No. 2 Stocks, Sec. 19, Blk. 3, 1,020 ft. from S and W, H.&T.C. Sur. ..... Fishing 1,200 ft.
Webb's No. 2 Nutt, 200 ft. from N and 711 ft. from E Subd. 5 ..... Rig.
Kingwood Oil Co. et al's No. 1 J. D. Suggs, SE NW SE Sec. 19, Blk. 7, H.&T.C. Sur. ..... Drlg. 7,415 ft.
P. H. Williams' No. 1 Ash, C of Sec. 20, Washington County ..... Shut down 3,535 ft.

JEFF DAVIS COUNTY

J. K. Hughes Dev. Co.'s No. 2 Means, 1,622 ft. N line, 600 ft. W line Sec. 345, H.&T.C. Sur. ..... Show gas 3,271 ft.; fresh water 3,000-05 ft.; underreaming 5 3/16-in. casing; shut down 4,005 ft.; 600 ft. fresh water 4,000-26 ft.

JONES COUNTY

J. H. Adsit et al's No. 1 Swenson, C of NE of SE Sec. 193, B.B.B.&C. Sur. ..... Fishing casing at 1,441 ft.
Cosden & Herbert Oil Co.'s No. 1 Bickley, 320 ft. N and 310 ft. E of SW cor. S half NW Sec. 50, Blk. 18, T.&P. Sur. ..... Drlg. 1,370 ft.
Cosden-Herbert et al's No. 3 Bickley, 330 ft. N and W of SE cor. of S half NW Sec. 50, Blk. 18 ..... Spudded.
W. G. Clark et al's No. 1 Collins, 330 ft. S and E of NW cor. Sec. 29, Blk. 18, T.&P.R.R. Sur. ..... Drlg. 920 ft.
Humble Oil & Ref. Co.'s No. 2 Bickley, 330 ft. S and W of NE cor. of SW Sec. 50, Blk. 18, T.&P.R.R. Sur. ..... Drlg. 1,005 ft.
McGinley Corp.'s No. 1 Whittemore, 660 ft. N and W of SE cor. SE NE Sec. 39, B.B.B.&C. ..... Running 5-inch csg. at 2,625 ft.
McNeeley et al's No. 1 Roscoe Bland, 1,175 ft. N and 240 ft. W of SE cor. Subdivision 20, A-164, DeWitt Co. School Land ..... Spudded and shut down.
Phillips Pet. Corp.'s No. 2 M. C. Lan, 990 ft. from N and W line Sec. 15, Blk. 19, T.P.R.R. Sur. ..... Underreaming at 2,315 ft.
Sedgwick Oil & Gas Co.'s No. 1 Brown, 660 ft. N and 1,320 ft. E of SW cor. Sec. 9, Blk. 1, T.&N.O. Sur. ..... Location.
Texas Pacific Coal & Oil Co.'s No. 1 Smith, 1,822 ft. S and 2,043 ft. E of SW cor. Sec. 51, Blk. 18, T.&P. ..... Drlg. 1,320 ft.
The Texas Company's No. 2 Camp, 2,829 ft. N and 323 ft. W of SE cor. Camp. 189.5-acre lease, Sec. 13, T.&P. Sur., Blk. 19 ..... Drlg. 2,493 ft.
The Texas Company's No. 3 Camp, 1,189 ft. S and 326 ft. W of NE cor. of Sec. 13, Blk. 19, T.&P. ..... Straightreaming at 2,390 ft.; TD 2,575 ft.
U. L. Tomberlin's No. 1 Horn, 1,980 ft. N and 600 ft. E of SW cor. of 502 ac. of Penney Sur. A-283 ..... Fishing at 2,809 ft.
White Eagle Oil & Ref. Co.'s No. 1 W. B. Teague, 933 ft. N and W of SE cor. Sec. 30, Austin & Williams Sur. No. 339 ..... Drlg. 2,675 ft.

KIMBLE COUNTY

C. L. Bryant and others' No. 1 Lambert, 700 ft. from N and W line of F. Lotta Sur. ..... Drlg. 170 ft.
Lindsay Bros.' No. 1 Anderson, Sec. 167, 1,320 ft. from N and E ..... Drlg. 920 ft.
McLean & Jamison's No. 1 Cannon, 1,940 ft. N and 300 ft. W of SE cor. Robert Cochran Sur. ..... Shut down 1,100 ft.; oil show at 1,070 ft.

LOVING COUNTY

Lockhart & Co.'s No. 2 Bowen-Wells, 990 ft. NW and 330 ft. SE Sec. 92, Blk. 1, W.&N.W.R.R. Sur. ..... Top salt 725 ft.; drlg. 3,145 ft.
Lockhart & Co.'s No. 1 Hayzell, 2,792 ft. SW of NE line and 660 ft. NW of SE line Sec. 84, Blk. 33, H.&T.C. R.R. Sur. ..... Top salt 700 ft.; drlg. 3,540 ft.
Lockhart & Co.'s No. 1 Johnson, 660 ft. S and 1,980 ft. W of NE cor. Sec. 20, Blk. 56, Twp. 1, T.&P.R.R. Sur. ..... Top salt 1,100 ft.; shut down 3,328 ft.; hole full water 3,310-28 ft.
Lockhart & Co.'s No. 1 Wheat-H, 990 ft. from NE and SE lines Sec. 85, Blk. 33, H.&T.C.R.R. Sur. ..... Top salt 720 ft.; set 8¼-in. casing 2,295 ft.; show oil 4,147 ft.; swabs 10 bbls. per day; total depth 4,197 ft.; shot 110 quarts 4,150-80 ft.; flowing 2 bbls. salt water hourly; averaging 10 bbls. oil per day on swab.

LYNN COUNTY

George McCamey's No. 1 Edwards, 165 ft. N and E Sec. 5, Blk. 2, L.S.&W. Sur. ..... Top salt 2,140 ft.; oil show 1,580-90 ft.; cem. 8¼-in. casing 2,500 ft.; shut down 3,580 ft.

MENARD COUNTY

Cromwell & Duffey's No. 1 Winslow, C SE Sec. 32, T.&N.O. Sur. ..... Underreaming 1,800 ft.

MIDLAND COUNTY

Phillips Pet. Corp.'s No. 1 Stokes, 440 ft. S and W of NE cor. S. Beall Sur. No. 101, Blk. 37, Twp. 2s, T.P.R.R. Sur. ..... Top salt 1,610 ft.; top lime 3,720 ft.; 1,500 ft. fluid in hole; total depth 4,260 ft.; run 6-in. casing; 2,000 ft. salt water in hole 4,200 running 6-in. csg.
Shoupe et al's No. 1 Roy Parks, 1,320 ft. N and W Sec. 34, Blk. 41 ..... Top lime 4,744 ft.; shut down 4,980 ft.; to deepen.

MITCHELL COUNTY

California Co.'s No. 7 Foster, Lease No. 1, Sec. 6, Blk. 29, Twp. 1s, T.P.R.R. ..... Set 8-in. casing 1,632 ft.; shut down 2,387 ft.
California Co.'s No. 1 Handley, 2,310 ft. from S, 1,650 ft. from E Sec. 1, Blk. 28, Twp. 1n, T.&P. Sur. ..... Shut down 2,780 ft.
Seiger's No. 1 Scott, C of NE of SW Sec. 36, Blk. 17, S.P.R.R. Sur. ..... Shut down 730 ft.
Republic Prod. Co.'s No. 1 Scott, 330 ft. N and E of SW Sec. 20, Blk. 17, S.P.R.R. Co. ..... Drlg. 2,840 ft.
Simms Pet. Co.'s No. 1 Elwood, C SE of Sec. 29, Blk. 18, S.P.R.R. Sur. ..... Set 5-in. casing 4,427 ft.; drlg. 4,640 ft.
Teas & Wheeler's No. 1 Radford, 1,320 ft. N and W of Sec. 1, Blk. 27, T.&P. Sur. ..... Shut down 4,060 ft.
Westyde Investment Co.'s No. 1 Elwood, C SW Sec. 38, Blk. 16, S.P.R.R. Sur. ..... Top lime 1,290 ft.; drlg. 2,700 ft.

NOLAN COUNTY

L. G. Bradstreet et al's No. 1 Kuteman, C NW Sec. 95, Blk. X, T.&P. Sur. ..... 2,500 ft. water in hole; drlg. 3,485 ft.
Phillips Pet. Co.'s No. 1 Plunkett, 330 ft. N and W of SE cor. NW Sec. 66, Blk. 23, T.&P. Sur. ..... Drlg. 3,100 ft.

PECOS COUNTY

California Co.'s No. 19 Yates, Lease No. 1, Sec. 34, Blk. 194, 1,042 ft. from N and 1,919 ft. from E, G.C. & S.F. ..... Rig.
California Co.'s No. 20 Yates, Lease No. 1, 1,042 ft. from N, 2,591 ft. from W Sec. 34, Blk. 194, G.C. &S.F. ..... Rigging up.
Cosby's No. 2 Smith, Sec. 24, Blk. 194, 1,650 ft. from N, 330 ft. from E, G.C.&S.F.R.R. Sur. ..... Drlg. 945 ft.
Cowboy Evans' No. 1 Pecos Valley, 2,310 ft. from NW line, 990 ft. from SW line of Sec. 36, Blk. 3, H.&T.C. R.R. Sur. ..... Shut down 710 ft.
Crowey's No. 1 Helner, 2,400 ft. each way from N and E lines Sec. 589, G.C.&S.F.R.R. Sur. ..... Shut down 1,288 ft.
Clayton Williams' No. 1 Sanford, 160 ft. from NW line, 1,150 ft. from SW line Sec. 55, Blk. 10, H.&G.N. ..... Underreaming 1,285 ft.
Gibson-Johnson's No. 1 Grace, 330 ft. N, 990 ft. from E Sec. 3, Blk. 179 ..... Fishing 1,700 ft.
Humble Oil & Ref. Co.'s No. 7-B Yates, 275 ft. from S, 2,679 ft. from W Sec. 101, T.C.R.R. Sur. ..... Drlg. 485 ft.
Independent Oil & Gas Co.'s No. 1 Iowa Realty Trust Co., 2,310 ft. each way NE SE line Sec. 23, Blk. 10, H.&G.N.R.R. ..... Shut down 1,493 ft.
Jayhawk Oil Co.'s No. 1 Price, 1,310 ft. from W, 330 ft. from S, Sec. 6, Blk. 12, H.&G.N.R.R. Sur. ..... Spudded and shut down.
J. L. Kennedy's No. 1 Roberts, C of Sec. 78, Blk. 3, T.&P.R.R. Sur. ..... Location.
Sam Kitts and others' No. 1 Sherbino, 330 ft. from N and 990 ft. from W line Sec. 52, Blk. C-4, G.C.&S.F. R.R. ..... Shut down 1,010 ft.
Landreth's Prod. Co.'s No. 1 University, 330 ft. from N and W lines of E half of SE Sec. 13, Blk. 18, University Land ..... Rigging up.
Seminole Oil Co.'s No. 1 Pecos Valley, Sec. 22, Blk. 10, 360 ft. from SW, 2,280 ft. from SE, H.&G.N. Sur. ..... Location.
Marland Oil Co.'s No. 1 University, Sec. 10, Blk. 17, 1,620 ft. from N, 1,020 ft. from E ..... Drlg. 580 ft.
Mauch & Kroger's No. 1 Holmes, Sec. 5, Blk. 178, T.C. Sur. ..... Shut down 1,442 ft.
R. E. Moore's No. 1 Arnold, 1,320 ft. from S and 660 ft. from E lines of Sec. 18, Blk. 1, H.&T.C.R.R. ..... Drlg. 667 ft.
Moncrief et al's No. 1 Tippett, 330 ft. from S, 330 ft. E of C Sec. 36, Blk. 12, H.&G.N. ..... Spudding 50 ft.
W. A. Moncrief et al's No. 2 Tippett, 330 ft. from S and E lines of W half of Sec. 36, Blk. 12, H.&G.N. R.R. Sur. ..... Location.
Moncrief et al's No. 1 Toborg, 330 ft. from S, 330 ft. W of C of Sec. 539, Blk. 1 ..... Spudded and shut down.
Moncrief et al's No. 1 University, 1,470 ft. from N and 150 ft. from E Sec. 27, Blk. 18, University Land ..... Spudding.
Moncrief et al's No. 2 University, 330 ft. from N, 2,310 ft. from W line of Sec. 13, Blk. 18, University Land ..... Location.
J. D. OMara's No. 1 Bennett, Sec. 592, 1,460 ft. from S, 150 ft. from E, G.C.&S.F. ..... Moving in machinery.
J. D. O'Mara's No. 1 Streety, C of Sec. 1, W. P. Howard Sur. ..... Location.
Pecos Crude Oil Pur. Co.'s No. 3 Pecos Valley, 990 ft. from NW, 1,650 ft. from SW Sec. 22, Blk. 10 ..... Spudding.
Perrin et al's No. 1 Eaton, 150 ft. each way from NE and NW lines Sec. 27, Blk. 39, H.&T.C. Sur. ..... 18,000,000 ft. gas 1,490-1,502 ft.; spraying salt water from behind 8¼-in. casing set at 1,180 ft.; shut down 1,502 ft.; 5 3/16-in. casing set on bottom with last joint perforated; 18,000,000 ft. gas shut in.
Perren's No. 1 Peterson, 150 ft. from NW, 150 ft. from SW Sec. 34, Blk. 10, H.&T.C. ..... Drlg. 300 ft.
Phillips Pet. Corp.'s No. 1 Bowser, 250 ft. from N and E Sec. 77, Blk. OW, G.C.&S.F.R.R. ..... Drlg. 885 ft.
Plymouth Oil Co.'s No. 2 Perry, Sec. 29, Blk. 178, 330 ft. from NE cor. ..... Set 6-in. casing; show oil and water; shut down 1,817 ft.; show oil 1,772-76 ft.; 1,200 ft. oil in hole from 1,792-96 ft.; hole fills at rate of 100 ft. per hour; total depth 1,858 ft.; flowing 30 bbls. per day.
Phillips Pet. Corp.'s No. 2 Monroe, 990 ft. from N and E of Sec. 39, Blk. 194, G.C.&S.F. Sur. ..... Drlg. 562 ft.
Phillips Pet. Corp.'s No. 1 Pryor, 440 ft. S and E of NW cor. Sec. 78, Blk. OW, T.M.R.R. Sur. ..... Top pay 1,345 ft.; 400 ft. oil in hole; drlg. 2,119 ft.
Phillips Pet. Corp.'s No. 2 Courtney, Sec. 78, Blk. OW, 220 ft. from N and W ..... Location.
Rowen & Tong's No. 1 McDonald, 1,170 ft. from N and 2,490 ft. from E Sec. 46, Blk. 2, H.&G.N. ..... Drlg. 675 ft.
Seminole Oil Co.'s No. 1 Cordova, 330 ft. from S and 2,434 ft. from E line of Sec. 51, Blk. 11, H.&G.N. ..... Location.
B. J. Spikes' No. 1 George Brown, 2,490 ft. SE and SW line Sec. 8, Blk. 3 ..... Show oil 1,180-90 ft.; shut down 2,257 ft.
Schumaker et al's No. 1 Williams et al, 330 ft. N of middle of S line Sec. 1, Blk. 117, G.C.&S.F. ..... Drlg. 1,400 ft.; hole full sulphur water 1,303 ft.
Shell Pet. Corp.'s No. 1-B University, 1,650 ft. from S and 330 ft. from W Sec. 30, Blk. 16, University Land ..... Location.
Southern Crude O. P. Co.'s No. 1 Jackson T-139, Sec. 28, Blk. 3, 1,487 ft. from NE, 2,518 ft. from SE cor. ..... Location.
Talbot and others' No. 1 Unsicker, 150 ft. each way from NE and SE cor. line of Sec. 25, Blk. 10, H.&G.N. Sur. ..... Material on ground.
Texas-Phillip's No. 1 Campbell, 1,320 ft. from SW, 330 ft. from SE, Sec. 46, Blk. 10, H.&G.N. ..... Drlg. 825 ft.
Taylor-Link's No. 2 University, 330 ft. from N and W of Sec. 31, Blk. —, University ..... Drlg. 330 ft.
Tidal Oil Co.'s No. 1 University, 1,320 ft. from S and W lines of Sec. 16, Blk. 20, University Land ..... Top salt 786 ft.; top lime 1,270 ft.; shut down 1,540 ft.; hole full water 1,536 ft.
Tidal Oil Co.'s No. 2 University, 2,970 ft. from N, 2,310 ft. from E Sec. 3, Blk. 18, University Land ..... Spudding.
Tidal Oil Co.'s No. 3 University, 2,310 ft. from S and 1,650 ft. from E Sec. 17, Blk. 20, University Land ..... Location.
Transcontinental Oil Co.'s No. 1 University, NE NW SW Sec. 18, Blk. 18 ..... Top lime 1,155 ft.; fishing 4,312 ft.; total depth 4,407 ft.
Trees Oil Co.'s No. 2 Trees, 330 ft. from N and W of SE cor. Sec. 43, Blk. 8, H.&G.N.R.R. Sur. ..... Location.
R. D. Webb's No. 1 fee, 1,900 ft. from E and 1,420 ft. N of SW cor. Sec. 105, Blk. OW ..... Drlg. 370 ft.
World Oil Co.'s No. 1 Kloh, 2,310 ft. from N and W line Sec. 47, Blk. 48, Twp. 8, T.&P.R.R. Sur. ..... Pulling pipe and plugging.
World Oil Co.'s No. 1 University, 330 ft. from N and 2,310 ft. from E of Sec. 31, Blk. 16, University Land ..... Rigging up.
World Oil Co.'s No. 1-B University, 330 ft. from N and E Sec. 13, Blk. 18 ..... Moving in machinery.

PRESIDIO COUNTY

L. C. Brite's No. 4 Brite, 271 ft. from N, 1,188 ft. from E Sec. 245, Blk. 4 ..... Shut down 480 ft.
Eastland Oil Co.'s No. 1 Tootle, C Sec. 17, Blk. 1, D.P. R.R. Sur. ..... Spudded; shut down.
Phillips Pet. Co., Empire G. & F. Co., Delmar Co. and C. E. Miller's No. 1 Tootle Est., C NE Sec. 75, Blk. 3, D.&P.R.R. Sur. ..... Slight oil show and gas at 2,707 ft.; show oil at 2,767 ft.; shut down 3,500 ft.
T. P. Coal & Oil Co.'s No. 1 Bogel, 330 ft. S and W, Sec. 83, Blk. 8, G.H.&S.A. ..... Location.

REAGAN COUNTY

Big Lake Oil Co.'s No. 1-C University, 2,598 ft. S and 250 ft. W of NE cor. Sec. 1, Blk. 2, University Land ..... Drlg. 2,996 ft.
Kemrow Co.'s No. 1 Sawyer Cattle Co., 1,320 ft. from N and 1,980 ft. from E line Sec. 8, J. G. Robinson Sur. ..... Location.

REEVES COUNTY

Exploration Co.'s No. 1 A. A. Kinney, 1,500 ft. W of NE cor. Sec. 26, Blk. C-18, Public School Land, elev. 2,847 ft. ..... Shut down 2,900 ft.; pipe out.

H. T. Hansford's No. 1 Williams, 150 ft. from S and W Sec. 17, Blk. 6, H.&G.N. ..... Derrick.
Earl Fenby's No. 1 Brooks, 1,980 ft. N and 660 ft. W Sec. 16, Blk. 59 ..... Shut down 160 ft.
Southern Crude O. P. Co.'s No. 1 Kloh-Rumsey, 2,310 ft. N and W SE cor. Sec. 23, Blk. 51 ..... Hole full water 1,275 ft.; cem. 12½-in. casing 1,463 ft.; shut down 1,535 ft. for orders; pipe parted, water broke in; skidded 75 ft. west; drlg. 555 ft. in red bed.

David R. Thompson's No. 1 A. A. Eddins, Sec. 9, Blk. C-1 ..... Fishing casing 5,658 ft.; underreaming 8¼-in. casing.

Lee O White et al's No. 1 Kloh-Rumsey, 660 ft. S and E of NW cor. Sec. 5, Blk. 51, Twp. 10, T.&P. Sur. ..... Cem. 10-in. casing 1,485 ft.; drlg. 1,700 ft.

RUNNELS COUNTY

Herbert Oil Co.'s No. 1 Currie, 1,866 ft. SE of NW line, 335 ft. SW of NE line Gray Carroll Sur. ..... Shut down 2,140 ft.
Independent Oil & Gas Co.'s No. 1 Will Rollwitz, 330 ft. S and W of NE cor. S half M. Salinas Sur. No. 20½ .. Drlg. 4,111 ft.; hole full salt water.

McLean et al's No. 1 G. W. Clayton, 150 ft. N line, 270 ft. from W line Sec. 135, E.T.R.R. ..... Shut down 1,185 ft.
Vacuum Oil Co.'s No. 4 McMillan, 555 ft. S and 717 ft. W of NE cor. Lot 22, Domingo Diaz Sur., No. 532 .... Location.

SCHLEICHER COUNTY

Fort McKavet's No. 1 Tisdale, Sec. 1,499, River Section, 3,630 ft. from S, 150 ft. from W ..... Set 6-in. casing 3,023 ft.; drlg. 3,375 ft.

Interstate's No. 1 Whitten, 1,320 ft. from N and W Sec. 35, Blk. LL, T.C.R.R. Sur. ..... Drlg. 4,090 ft.
Underwood's No. 1 Tisdale, 2,095 ft. N and 1,185 ft. from E Sec. 74, Blk. LL ..... Spudded and shut down.

SCURRY COUNTY

Camp Spring Oil & Ref. Co.'s No. 2 Guinn, 1,300 ft. from S, 300 ft. from E Sec. 12, Blk. 3, H.&T.C.R.R. Sur. ..... Rig.
Cottingham & Briscoe's No. 1 Trees, C SE Sec. 147, Blk. 97 ..... Moving in material.
I. B. Mimms et al's No. 1 J. J. Koonsman, Sec. 216, Blk. 2, H.&T.C. Sur ..... Spudded and shut down 300 ft.
G. E. Dickman and R. B. Pender et al's No. 1 F. C. Davis, 1,000 ft. N and 1,770 ft. W of SE cor. of Sec. 275, Blk. 2, H.&T.C. Sur. ..... Shut down 3,230 ft.
Texas-Canadian's No. 1 Moore, 1,320 ft. from S and W Sec. 379, Blk. 97 ..... Location.

SUTTON COUNTY

Phillips Pet. Co.'s No. 1 A. G. Holman, 2,310 ft. S and 330 ft. W NE cor. Sec. 25, G.C.S.D.&N.G.R.R. Sur. .... Fishing 6,635 ft.; making 1,500,000 ft. gas 6,635 ft.

L. G. Priest's No. 1 Allison, 1,320 ft. N and E of SW cor. Sec. 52, Blk. A, T.&P. Sur. ..... Set 15-in. casing 530 ft.; shut down 3,250 ft.

TAYLOR COUNTY

V. B. Jameson's No. 1 Webb, 1,170 ft. S and W of NE cor. Sec. 46, Lunatic Asylum Land ..... Drlg. 4,451 ft.
Magnolia Pet. Co.'s No. 1 Hammer ..... Drlg. 2,924 ft.
Mid-Continent Oil & Gas Co.'s No. 1 Cody, 330 ft. N and E of SW cor. M. E. Cody 116.7-acre tract, Guadalupe County School Land ..... Location.
Root Drlg. Co.'s No. 1 Martin, 990 ft. E and 1,650 ft. N of SW cor. Sec. 20, Blk. 19, T.&P.R.R. Sur. ..... Drlg. up pipe; total depth 2,475 ft.

TERRELL COUNTY

Big-Bend Oil Co.'s No. 1 Bassett, C NW Sec. 155, Blk. D, M.-K.-T.R.R. Sur. ..... Fishing 3,251 ft.
Keck Pecos Trust Co.'s No. 1 Hamilton, C Sec. 6, Blk. D-7, E.L.R.R. Sur. ..... Drlg. 2,565 ft.
Mrs. J. B. McGhee's No. 1 Sam Belt, C Sec. 78, Blk. D-7, E.L.&R.R. Sur. ..... Shut down 640 ft.
Milham Exploration Co.'s No. 1 Bassett, Sec. 76, Blk. Y, W. E. Robertson Sur. ..... Cem. 6⅝-in. casing 3,986 ft.; drlg. 5,255 ft.

Woodley & Jones' No. 1 Pankenham, C SE NW Sec. 43, Blk. B-2, C.C.S.D.&N.G.R.R. Sur. ..... Shut down 625 ft.

TERRY COUNTY

Kingsland O. P. Co.'s No. 1 Brownfield, C NW SW SW Sec. 7, Blk. 1-A, E.L.R.R. Sur. ..... Fishing bailer 5,080 ft.

TOM GREEN COUNTY

Cannon and others' No. 1 Rust, 990 ft. S, 990 ft. W of NE cor. of Sec. 745 ..... Rig.
Fitzgerald & Taliaferro's No. 1 Bennett, C SW Sec. 1,628, E. H. Ringer ..... Shut down 1,920 ft.
Fuhrman Pet. Co.'s No. 1 Wardlaw, 2,650 ft. from N and E of Sec. 6, Blk. 17, H.&T.C. ..... Location.

UPTON COUNTY

Dixie Oil Co.'s No. 30 Burleson, 990 ft. from N and 2,640 ft. from E Sec. 2, John Nidever ..... Rigging up.
Prairie Oil & Gas Co.'s No. 1 Quatters, 330 ft. from S and 1,980 ft. from W, C. C. Dewitt Sur. ..... Rig.
Pure Oil Co.'s No. 1 Hughes, 150 ft. from SW, 150 ft. from N Sec. 4, William Teer Sur. ..... Drlg. 510 ft.

YOAKUM COUNTY

Weekly Oil Corp.'s No. 1 Knight, C NW Sec. 791, Blk. D, John Gibson Sur. ..... Shut down 1,960 ft.

VAL VERDE COUNTY

Independent Operators' No. 1 Whitehead, SE Sec. Sec. 30, Blk. 4, I.&G.N. Sur., elev. 1,175 ft. ..... Shut down 4,850 ft.
O. O. Owens' No. 1 Mills, Sec. 128, Blk. 1, I.&G.N. Sur., elev. 2,130 ft. ..... Gas sand 2,491-2,520 ft.; tested 125,750 ft. gas; reset 8-in. 2,511 ft.; fishing 4,210 ft.

Producers Oil Co. et al's No. 1 Everett Bros., 2,310 ft. S and 330 ft. E of NW cor. Sec. 40, Blk. DB, C.C.S.D.&R.G.N.G. Sur. ..... Fishing 2,510 ft.
Dyar Bros. et al's No. 1 Wilson, 6,830 ft. N NE cor. Sec. 1, T.&P. Sur., thence 1,680 ft. E Sec. 115, Blk. E, G.C.&S.F. Sur. ..... Cleaning out 2,926 ft.
Valvert Oil Corp.'s No. 1 Bassett, C NE Sur. 47, Blk. Y. . Set 15½-in. casing 767 ft.; set 10-in. casing 1,510 ft.; shut down 3,900 ft.

WARD COUNTY

Atlantic & Delmar's No. 3 Hayzlett, 150 ft. each way from E cor. of S of W of Sec. 17, Blk. 5, H.&T.C. R.R. Sur. ..... Top salt 727 ft.; drlg. 1,720 ft.
C. C. Dorr et al's No. 1 Costley, 1,722 ft. from NW, 990 ft. from NE line of Sec. 2, Jos. Howe Sur. ..... Location.
Continental Oil Co.'s No. 2 Sealey, 330 ft. S and W Sec. 81, Blk. A, G.M.M.B.&A. Sur. ..... Location.
Gulf Prod. Co.'s No. 2 Hutchins, 330 ft. N and E Sec. 7, Blk. O ..... Top salt 1,240 ft.; top pay 2,529 ft.; 2,000,000 ft. gas; rebuilding rig; cleaning out 2,579 ft.

Barstow Oil & Gas Co.'s No. 1 Monroe, Sec. 50, Blk. 33. . Spudded and shut down.
Gulf Prod. Co.'s No. 5 O'Brien, 330 ft. each way NW of SW Sec. 18, Blk. F, G.M.M.B.&A. Sur. ..... Top salt 1,273 ft.; top pay 2,595 ft.; flowing 120 bbls. first 12 hours on pump.

Gulf Prod. Co.'s No. 6 O'Brien, 2,310 ft. from N, 330 ft. from E Sec. 20, Blk. F, G.M.M.B.&A. Sur. ..... Drlg. 217 ft.
Gulf Prod. Co.'s No. 1 Wristen, 216 ft. NW, 1,107 ft. SE Sec. 18, Blk. 5 ..... Top salt 720 ft.; top pay 2,420 ft.; made three 20-bbl. heads; drlg. at 2,425 ft.

Gulf Prod. Co.'s No. 2 Wristen, 220 ft. NW, 1,470 ft. SW Sec. 18, Blk. 5, H.&T.C. ..... Drlg. 1,145 ft.

Kemper-Kimberlin's No. 1 Thompson, 1,470 ft. NE, 150 ft. NW Sec. 15, Blk. 5 ..... Location.
E. B. Lovelace et al's No. 1 Redman, 1,980 ft. NE of SW line and 1,980 ft. SE of NW line, Sec. 162, Blk. 34, E.&T.C.R.R. ..... Drlg. 620 ft.
Marland Oil Co.'s No. 1 Sealey, 330 ft. S and W of Sec. 81, Blk. A, G.M.M.B.&A. ..... Location.
Penn & Atlantic's No. 1 Pecos Mercantile Co., Sec. 16, Blk. 34 ..... Drlg. 365 ft. red sand.
Ramsower and others' No. 1 Boogher, 1,980 ft. NE and SE of Sec. 11, Blk. 5, H.&T.C. ..... Moving machinery.
Shipley's No. 2 Hayzlett, 220 ft. SE and 1,570 ft. SW Sec. 17, Blk. 5, H.&T.C.R.R. Sur. ..... Top salt 795 ft.; drlg. 1,880 ft.
Shipley et al's No. 1 Monroe, 330 ft. SE SW Sec. 3, Blk. 1 ..... Rigging up standard.

WINKLER COUNTY

American Maracaibo Co.'s No. 2 Hendricks-B, 1,980 ft. N and 1,650 ft. E of SW cor. Sec. 28, Blk. B-5 ..... Cem. 12½-in. casing 170 ft.; top lime 2,599 ft.; top pay 2,731 ft.; 2,000 ft. oil; increase 2,875 ft.; show water 2,928-31 ft.; running 6-in. casing 2,945 ft.; drlg. 3,420 ft.; flowing 210 bbls. fluid daily.

V. T. Bolin's No. 2 Brown et al, 2,000 ft. S and W of NE Sec. 4, Blk. B-5, Public School Land ..... Top salt 1,300 ft.; total depth 2,420 ft.; shut down for 8-in. casing.

Cranfill & Pickrell's No. 2 Hutchins, 2,310 ft. S and W Sec. 47, Blk. 26 ..... Location.
Flandell Oil Co.'s No. 1 Carter, 640 ft. N, 2,230 ft. E of SW cor. Sec. 26, Blk. B-3 ..... Location.
Gulf Prod. Co.'s No. 2-B Lum Daugherty, 2,310 ft. from N and 1,320 ft. W Sec. 22, Blk. 26, P.S.L. ..... Location.
Gulf Prod. Co.'s No. 1 Clapp, 330 ft. S and W Sec. 37, Blk. 26 ..... Top lime 2,297 ft.; cem. 8¼-in. casing 2,302 ft.; total depth 2,468 ft.; tested 2,500,000 ft. gas.

Gulf Prod. Co.'s No. 3 Hendricks, 330 ft. from N and 310 ft. W Sec. 44, Blk. 26, Public School Land ..... Top salt 1,961 ft.; set 12½-in. casing 664 ft.; drlg. 2,700 ft.

Humble Oil & Ref. Co.'s No. 13-C Hendricks, 440 ft. from S, 330 ft. from W Sec. 10, Blk. B-12. ..... Rigging up rotary.
Humble O. & R. Co.'s No. 14 Hendricks-C, 440 ft. N and 1,320 ft. E of SW cor. Sec. 10, Blk. B-12, School Land ..... Location.
Kermit Dev. Co.'s No. 1 Carter, 640 ft. S, 2,227 ft. W Sec. 27, Blk. B-3 ..... Shut down 400 ft. to cure title.
Liner Drlg. Co.'s No. 1 Campbell, 330 ft. from N and E cor. Sec. 2, Blk. B-5 ..... Drlg. 1,020 ft.
Magnolia Pet. Co.'s No. 2 Scarborough, 1,620 ft. N and 990 ft. W SE cor. Sec. 1, Blk. C-22 ..... Top salt 1,125 ft.; gas show 2,825 ft.; running 8¼-in. casing 2,825 ft.; drlg. 2,979 ft.; flowing 180 bbls. daily.

Marland Oil Co.'s No. 1 Morton-A, 330 ft. N and E of Sec. 16, Blk. B-12 ..... Cem. 12-in. casing 409 ft.; drlg. 1,292 ft.

Shell-Llano Oil Co.'s No. 7 Scarborough, 1,020 ft. from N and W Sec. 2, Blk. 77 ..... Building rig.
Skelly Oil Co.'s No. 3 Daugherty, 330 ft. W, 1,650 ft. S Sec. 22, Blk. 26, Public School Land ..... Top lime 2,440 ft.; cementing 8-in. casing 2,469 ft.

Skelly Oil Co.'s No. 4 Daugherty, 990 ft. S, 330 ft. W Sec. 22, Blk. 26 ..... Top lime 2,476 ft.; cementing 8-in. casing 2,484 ft.; shut down for tools.

Skelly Oil Co.'s No. 5 Daugherty, 1,326 ft. W, 2,310 ft. S Sec. 22, Blk. 26 ..... Location.
Southern Crude O. P. Co.'s No. 4 Hendricks T-88-CX, 1,375 ft. N, 330 ft. E Sec. 21, Blk. 26 ..... Drlg. 1,243 ft.
Southern Crude O. P. Co.'s No. 5 Hendricks T-67-2-D, 990 ft. from W, 2,310 ft. from S, Sec. 28, Blk. 26 .... Top lime 2,593 ft.; cmtng. 8¼-in. casing 2,605 ft.; oil and gas show and water show 2,858 ft.

Southern Crude O. P. Co.'s No. 2 Hendricks T-89-L, 440 ft. from N and 1,320 ft. from W Sec. 15, Blk. B-12 . . . Location.
Southern Crude O. P. Co.'s No. 4 Hendricks T-90, 2,310 ft. S and E of Sec. 47, Blk. 26 ..... Location.
Texas Canadian Oil Co.'s No. 1 Kloh-Rumsey, 1,320 ft. N and E of SW cor. Sec. 35, Blk. 46, T.&P.R.R. Sur. . . Shut down 4,011 ft. for orders.

TEXAS PANHANDLE

(Continued from Page 90)

cellor was dry and abandoned at 1,554 feet. Madden & Junker's No. 1 Schlegel was dry and abandoned at 1,305 feet. Rogers and others' No. 1 Garvey was dry and abandoned at 826 feet. W. H. Smith, Jr.'s No. 5 Prideaux had an initial production of 6 bbls. at 745-53 feet. Wise & Jackson's No. 1 Inman and others was dry and abandoned at 750 feet.

Cooke County

Comet Petroleum Co.'s No. 1 Huey was dry and abandoned at 1,637 feet. Humble Oil & Refining Co.'s No. 1 Field & Bowers was dry and abandoned at 2,001 feet.

Foard County

Bass & Dillard's No. 1 Phillips was dry and abandoned at 2,627 feet.

Jack County

Prairie Oil & Gas Co.'s No. 5 Bryson was drilled to a total depth of 3,122 feet and made 3,500,000 feet of gas and 3 bbls. oil at first sand 3,020-58 feet, made 2,000,000 feet of gas at second sand 3,084-92 feet, and 86 bbls. oil and 5,000,000 feet of gas at the third sand encountered at 3,102-22 feet.

Throckmorton County

Shappell Oil Co.'s No. 2 Upshur County School Land had an initial production of 30 bbls. at 1,256-69 feet.

Young County

Boller and others' No. 1 Hunt was abandoned at 710 feet. Their No. 2 Hunt made 15 bbls. at 1,016-19 feet. Brihill & Bradstreet & Co.'s No. 1 Self was dry and abandoned at 775 feet. Hawkins' No. 3 Owens was dry and abandoned at 751 feet. Parks and others' No. 2 Carpenter had an initial production of 110 bbls. at 571-99 feet. Republic Production Co.'s No. 3 Haygood was dry and abandoned at 752 feet. Trinity Oil Co.'s No. 1 Loftin was dry and abandoned at 632 feet.

Wichita County

American Refining Properties' No. 6 Morgan was shot with 5 and 10 quarts at 1,553-76 feet and had an initial production of 60 bbls. Arkansas Natural Gasoline Co.'s No. 17 Kemp Kempner had an initial production of 55 bbls. at 1,493-98 feet. Golding & Cochran's No. 5 Waggoner was shot with 5 quarts at 1,298-1,313 feet and had an initial production of 17 bbls. T. F. Hunter's No. 1 Friberg was dry and abandoned at 1,600 feet. His No. 4 Waggoner Brothers had an initial production of 45 bbls. at 1,313 feet. King Royalty Co.'s No. 5 Boyd had an initial production of 45 bbls. at 1,777-89 feet. River & Bailey's No. 5 Michie made 25 bbls. at 1,787-97 feet. J. G. Rome and others' No. 4 Waggoner Brothers had an initial production of 40 bbls. at 1,300-24 feet. The Texas Company and others' No. 6 Waggoner Brothers had an initial production of 240 bbls. at 1,280-93 feet.

Wilbarger County

Bradstreet & Co.'s No. 1 Waggoner was shot with 60 quarts at 2,374-85 feet and had an initial production of 175 bbls. Consolidated Oil Co.'s No. 4 Waggoner had an initial production of 125 bbls. at 1,859-62 feet and 1,862-79 feet. Dixie Oil Co.'s No. 1 Waggoner had an initial

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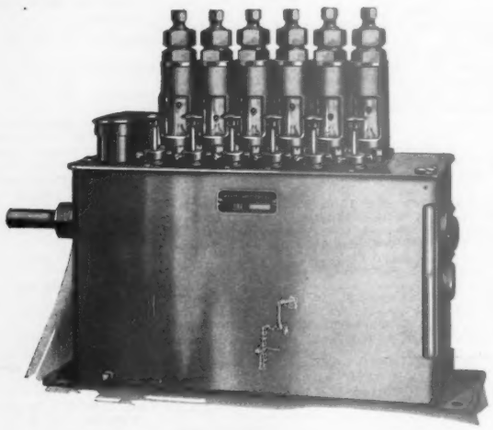

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production of 110 bbls. at 2,387-95 feet. Empire Gas & Fuel Co.'s No. 15 Waggoner made 105 bbls. at 2,295-2,319 feet. Fain-McGaha Oil Corp.'s No. 9 Waggoner had an initial production of 175 bbls. at 2,293-2,317 feet, 2,314-20 feet and 2,411-15½ feet. Knight's No. 4 Waggoner had an initial production of 110 bbls. at 1,858-76 feet. His No. 2 Waggoner had an initial production of 100 bbls. at 1,866-81 feet. Phillips Petroleum Corp.'s No. 4 Waggoner had an initial production of 84 bbls. at 1,874-98 feet. Prairie Oil & Gas Co.'s No. 9 Waggoner was dry and abandoned at 2,440 feet. Robertson and others' No. 4 Waggoner had an initial production of 75 bbls. at 1,879-1,900 feet. Simms Petroleum Co.'s No. 10 Waggoner was dry and abandoned at 1,871 feet. Simpson Fell Oil Co.'s No. 1 Waggoner topped the pay at 2,658-65 feet, and had an initial production of 213 bbls. Staley Wynne & Co.'s No. 7 Waggoner had an initial production of 30 bbls. at 1,851-62 feet. Waggoner Refining Co.'s No. 3 Waggoner had an initial production of 175 bbls. after having a 20-quart shot at 1,868-77 feet and being drilled to a total depth of 1,885 feet.

RANGER DISTRICT
Week Ended July 20

Brown County

Baker Brothers' No. 2 White heirs was dry and abandoned at 1,180 feet. Cen-Tex Refining Co.'s No. 2 Bull had an oil show at 1,133 feet, was drilled to a total depth of 1,151 feet and had an initial production of 15 bbls. Sinclair Oil & Gas Co.'s No. 1 Caldwell was dry and abandoned at 1,665 feet. Ven-Mex Oil Co.'s No. 24 Hickman had an oil show at 1,237 feet, was drilled to a total depth of 1,255 feet and had an initial production of 25 bbls.

Callahan County

Humphrey Brothers' No. 8 Gorey had an initial production of 7 bbls. at 419-421 feet. McLeary, Conway and others' No. 1 Walker was dry and abandoned at 432 feet. T. P. Coal & Oil Co.'s No. 14 Westerman was dry and abandoned at 1,715 feet. Warren & Hayes' No. 1 Biggerstaff was dry and abandoned at 700 feet.

Coleman County

Broderick & Calvert's No. 1 Bennett was dry and abandoned at 1,865 feet. Eastland Oil Co.'s No. 7-A Morris had an oil show at 1,989 feet, was drilled to a total depth of 1,999 feet and made 156 bbls. in 13 hours and 1,000,000 feet of gas. It had an initial production of 273 bbls. and 1,000,000 feet of gas. Midwest Exploration Co.'s No. 1 Keeney found a gas show at 1,996-2,005 feet and an oil show at 2,005-12 feet, was drilled to a total depth of 2,012 feet and had an initial production of 671 bbls. White Eagle Oil & Refining Co.'s No. 1 Morris had an oil show at 2,018-25 feet, was drilled to a total depth of 2,029 feet and had an initial production of 1,890 bbls. Brown and others' No. 1 Turner estate had an oil show at 1,581 feet, was drilled to a total depth of 1,586 feet and had an initial production of 4,186,000 feet of gas. Continental Oil Co. and others' No. 5 Overall was deepened from 1,508 to 2,-138 feet and found a second oil show at 2,028-38 feet and had an initial production of 160 bbls. J. R. Foster and others' No. 3 Haas had an oil show at 1,489 feet, was drilled to a total depth of 1,499 feet and had an initial production of 40 bbls. Holliday and others' No. 1 Long location was abandoned. Smith & Shaffer's No. 1 Vaughn was dry and abandoned at 1,133 feet.

Comanche County

T. P. Coal & Oil Co.'s No. 1 Echols was drilled to a total depth of 2,902 feet, plugged back to 2,750 feet, shot with 30 quarts from 2,735-50 feet and was dry and abandoned.

Eastland County

Texwa Oil Co. & Kirk's No. 2 Turner had an initial production of 20 bbls. at 1,298-1,323 feet. Goodwin and others' No. 3 Parker was dry and abandoned at 1,735 feet after having an oil show at 1,477-83 feet. Belva Oil Co.'s No. 1 Stinnett topped the pay at 3,495-3 504 feet, was drilled to a total depth of 3,504 feet, had an initial production of 450 bbls. oil and 8,000,000 feet of gas. It is now flowing 247 bbls. with tools in hole. Crabb, McNeel & Canyon Oil & Gas Co.'s No. 3 Turner had an initial production of 35 bbls. at 1,302-28 feet. Porter Development Co.'s No. 1 Morgan was dry and abandoned at 1,535 feet. Texwa Oil Co. & Kirk's No. 1 Palm had an initial production of 30 bbls. at 1,330-36 feet.

Erath County

Fletcher & Moore's No. 1 Cage & Mulloy had an initial production of 5,856,850 feet of gas at 3,264-70 feet. Shaw and others' No. 1 Cox was drilled to a total depth of 3,565 feet, plugged back to 3,377 feet, was shot with 225 quarts from 3,258-77 feet and had an initial production of 2,513,000 feet of gas.

Stephens County

T. P. Coal & Oil Co.'s No. 2 Smith had an initial production of 100 bbls. at 1,939-59 feet after having been shot with 40 quarts and drilled to a total depth of 2,450 feet.

Shackelford County

Cranfill & Reynolds' No. 2-G Flippen was dry and abandoned at 872 feet. Humble Oil & Refining Co.'s No. 5-B Davis was dry and abandoned at 1,850 feet.

PANHANDLE COMPLETIONS
Week Ended July 20

Gray County

Danciger Oil & Refining Co.'s No. 4 J. S. Morse, located 330 feet south and east of NW cor. NW SW Section 1, Block 26, H.&G.N.R.R. Survey, had an oil show at 2,447-52 feet, at 2,486-93 feet and 2,493-2,504 feet, was drilled to a total depth of 2,554 feet and had an initial production of 42 bbls. Scott Drilling Co.'s No. 1 A. Chapman, located 330 feet north and east of SW cor. S half NE Section 69, Block 25, H.&G.N.R.R. Survey, topped the pay at 2,705-10 feet, was drilled to a total depth of 2,753 feet and had an initial production of 75 bbls. Marland Oil Co.'s (Continental) No. 3 Finley-Brown, located 1,224 feet from east line, 330 feet from north line, Section 32, Block B-2, H.&G.N.R.R. Survey, topped the pay at 2,858 feet, was drilled to a total depth of 2,902 feet and had an initial production of 1,000,000 feet gas at 2,540-55 feet and swabbed 5 bbls. of oil hourly. Wilcox-Pampa Oil Co.'s No. 7 Combs-Worley, 330 feet north and east SW cor. SE Section 60, Block 3, I.&G.N.R.R. Survey, was dry and abandoned at 3,015 feet.

Carson County

Morris and others' No. 1 Barnard, NW cor. SW SE Section 44, was drilled to a total depth of 3,388 feet, was shot with 380 quarts from 3,130-3,275 feet and had an initial production of 10 bbls.

Hutchinson County

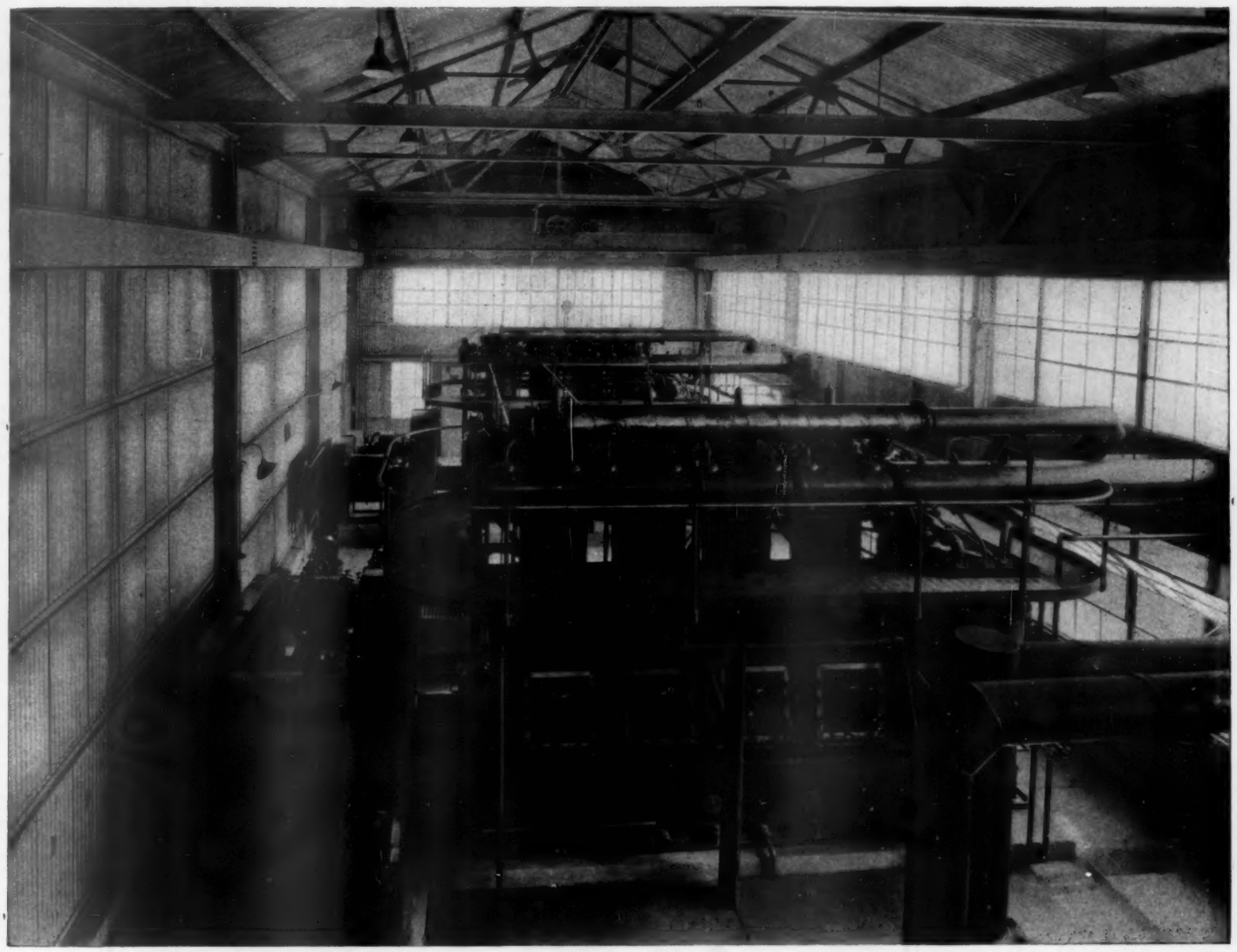
Phillips Petroleum Corp.'s No. 1 Sanford-Glass, 660 feet south and east of NW cor. south 80 acres of north 160 acres of south 320 acres Section 80, Block 46, H.&T.C.R.R. Survey, was drilled to a total depth of 2,767 feet, topped the pay at 2,730 feet and had an initial production of 37 bbls. oil and 12,000,000 feet of gas. Prairie Oil & Gas Co.'s No. 2 Cal Merchant was drilled to a total depth of 2,885 feet, shot with 160 quarts at 2,491-2,540 feet and made 50,000,000 feet of gas. Phillips Petroleum Corp.'s No. 5 J. T. Sneed, Jr., location was abandoned.

SPANISH STANDARD SETTLEMENT

According to cabled reports from Madrid, Jose Calvo Sotelo, finance minister of Spain, has signed two decrees authorizing the payment of approximately 25,-000,000 pesetas indemnification to the Standard Oil Co. of New York as compensation for properties owned by that company taken over by the Spanish Petroleum monopoly. At the current rate of exchange, this is equivalent to approximately $2,825,000.

SAFETY COUNCIL TO MEET

Carl H. Martin, of the Phillips Petroleum Co., has invited the Petroleum Safety Council to hold its next meeting at the Hillcrest Country Club, Bartlesville, Okla., at 10 a. m. Friday, July 26. Martin asks golf players to bring their clubs along.



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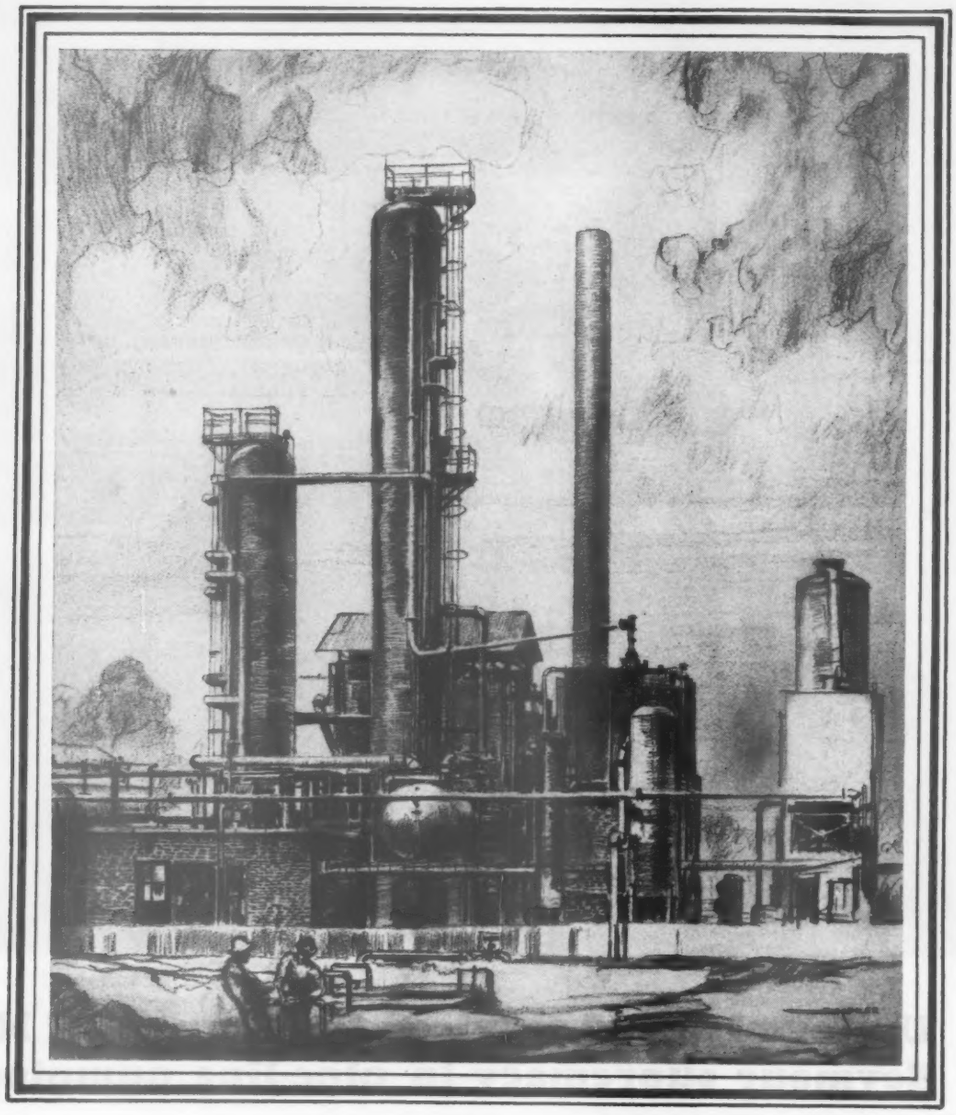

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WILDCAT OPERATIONS IN KANSAS

(Continued from Page 86)

Milmar Oil Co.'s No. 1 Strickley, SW cor. SW Sec. 17-26-5w ..... Drlg. 3,050 ft.

RICE COUNTY

Milmac's No. 1 Cain, C SE Sec. 29-19-7w ..... Rig on ground.
Allison & Fitzwilliams' No. 1 Poland, NE cor. SW NE Sec. 36-19-8w ..... Cellar.
Higgins & Steinbuchel's No. 1 Shurr, NE cor. SW Sec. 21-20-10w ..... Shut down 3,085 ft.; water.

RILEY COUNTY

Grey et al's No. 1 Smith, NE SE Sec. 30-6-6 ..... Drlg. 1,200 ft.
Derby & Shaw's No. 1 Lindstrom, NE cor. Sec. 32-7-5e.. Drlg. 945 ft.

RUSSELL COUNTY

Allison & Fitzwilliams' No. 1 Mohenny, NW SE Sec. 5-14-12w ..... Underreaming 3,218 ft.

ROOKS COUNTY

Kruger et al's No. 1 Stela, NW SE SW Sec. 12-9-16w.... Shut down 50 ft.
Burford-Brim's No. 1 Toxa, Sec. 22-9-17w..... Spudded; shut down.
Prairie O. & G. Co.'s No. 1 Gick, SE cor. Sec. 22-9-19w.. Drlg. 3,905 ft.

RUSH COUNTY

Sinclair Oil & Gas Co.'s No. 1 Seur, C SW NW NW Sec. 8-18-17w ..... Drlg. 3,477 ft.
Danciger Oil Ref. Co.'s No. 1 Swindt, SW cor. Sec. 22-17-17w ..... Drlg. 3,587 ft.
Barnsdall Oil Co.'s No. 1 Brock, C SE SE Sec. 21-17-17w ..... Drlg. 3,573 ft.
Central Commercial Oil Co.'s No. 1 Brock, SE cor. SW SW Sec. 12-17-16w ..... Shut down 50 ft.
Danciger Oil Ref. Co.'s No. 1 Pivonka, NE cor. SW NE Sec. 17-19-17w ..... Fishing 3,540 ft.

SALINE COUNTY

Austin et al's No. 1 Olsen, NW SW SE Sec. 10-15-4w .... Spudding.
Templeman's No. 1 Lanbengager, C SW Sec. 20-15-5w .. Drlg. 500 ft.
Kinney-Coastal's No. 1 Hughes, NW NE NW Sec. 20-13-4w ..... Shut down 50 ft.
Dixie Oil Co.'s No. 1 Muir, C SW SE Sec. 6-15-2w..... Drlg. 2,978 ft.
Boyle et al's No. 1 Miller, SW cor. SE Sec. 21-16-1w.... 5-in. csg. 3,250 ft.
Kenney-Coastal Oil Co.'s No. 1 Beal, C NW Sec. 23-14-5w ..... Drlg. 3,920 ft.

SEDGWICK COUNTY

C. B. Davis' No. 1 Kinkead, NE cor. Sec. 14-27-1 ..... Rig on ground.
Mariand and Amerada's No. 1 Sensroth, NW cor. Sec. 25-28-4w ..... Rig.
Boyle's No. 1 Sandusky, NW NE SE Sec. 34-26-1w ..... Spudding.
Lario O. & G. Co.'s No. 1 Calkins, SW cor. SE Sec. 7-27-2e ..... Drlg. 1,350 ft.
R. W. Mariand's No. 1 Huggins, SE NW SW Sec. 30-27-2 ..... Drlg. 1,440 ft.
Johnson & Marshall's No. 1 Roy, NE cor. SE SW Sec. 23-29-1w ..... Drlg. 2,340 ft.
Lario O. & G. Co.'s No. 1 Teachorff, NE cor. SW Sec. 27-29-1w ..... Shut down 2,035 ft.
Kyle et al's No. 1 Pinney, SW NW SE Sec. 29-28-1w.... Shut down 50 ft.
Simmons & Canary's No. 1 Scott, NE NW NE Sec. 22-26-1e ..... Drlg. 2,775 ft.
T. B. Slick's No. 1 Rosenhagen, SW SE NE Sec. 33-27-4w ..... Drlg. 4,171 ft.
Hammond & Stout's No. 1 Roeder, SW NW Sec. 23-27-2w ..... Drlg. 3,110 ft.
Twist et al's No. 1 Armstrong, NE NW Sec. 28-26-1e.... Rig; spud; shut down.
Shawver et al's No. 1 Scott, SE cor. SW SW Sec. 10-28-1e ..... Hole full water 3,128-36 ft.; shut down.
Barnett O. & G. Co.'s No. 1 Davidson, NW cor. NW SW Sec. 27-26-1e ..... Shut down 2,668 ft.
Kellar & Lewis' No. 1 Buckles, NW cor. SE Sec. 3-28-1w.. Fishing 975 ft.
Magnolia Pet. Co.'s No. 1 Wise, NW cor. NW Sec. 36-28-2w ..... Hole full water 3,889-90 ft.; abandoned.
Blankenship et al's No. 1 Tuttle, SW cor. NW Sec. 1-27-1 ..... Hole full water 3,397-3,410 ft.; P. B. to 2,988 ft.; abandoned.
Twist et al's No. 1 Joseph, CNL SW SE Sec. 4-25-1w... Shut down 1,980 ft.
Miller Wentz' No. 1 Shaffer, NE cor. NE Sec. 9-27-2w... Drlg. 3,500 ft.
Kroder et al's No. 1 Harden, SW cor. NW SW Sec. 29-26-1e ..... Shut down 1,100 ft.
Washabaugh et al's No. 1 Harrison, NW cor. NE NE Sec. 3-26-2w ..... Drlg. 2,110 ft.
Sullivan et al's No. 1 Shelly, NW cor. NE SE Sec. 22-29-2e ..... Hole full water 3,555-63 ft.; landing 5-in. csg.
Producers Oil Co.'s No. 1 Jones, SW cor. NE SE Sec. 31-26-2 ..... Hole full water 3,357-75 ft.; shut down 3,409 ft.; total depth 3,506 ft.
LaFont et al's No. 1 Carlton, C SE SE SW Sec. 24-28-1e.. Drlg. 1,685 ft.

SHERMAN COUNTY

A. L. Henson et al's No. 1 Murry, NE cor. SE NW Sec. 22-7-40w ..... Shut down 3,035 ft.

STEVENS COUNTY

Trees Oil Co.'s No. 1 Thompson, C NE SW Sec. 3-35-38w.. Shut down 500 ft.
W. Sidwell et al's No. 1 Kelly, SW cor. NE Sec. 16 34-38w ..... Shut down 1,320 ft.

SMITH COUNTY

Phillips Pet.'s No. 1 Clydesdale, SE NW Sec. 23-5-14w... Drlg. 1,150 ft.

SUMNER COUNTY

E. K. Cary and Lorado Oil Co.'s No. 1 Walsch, SW SE Sec. 9-34-1e ..... Drlg. 600 ft.
Mid-Continent Pet. Corp.'s No. 1 Clark, SE cor. Sec. 31-34-3w ..... Rig.
Shell Pet. Corp.'s No. 1 Armstrong, NE cor. Sec. 12-33-1e. Rig.
Gypsy & Blankenship's No. 1 Robeck, C SW SW Sec. 27-34-4w ..... Drlg. 4,665 ft.
Davidson et al's No. 1 Strickland, SW cor. SE Sec. 12-35-1w ..... Rig.

TREGO COUNTY

Mid-Kansas' No. 1 Ridgeway, NE SW Sec. 28-12-21w .... Rig.
Day et al's No. 1 Gugler, SW NE NE Sec. 36-12-21w.... Shut down 50 ft.
Day et al's No. 1 Unknown, NE NW SW Sec. 2-11-21w... Drlg. 1,565 ft.

WASHINGTON COUNTY

McCool & Vincent's No. 1 Linn, NW cor. NE Sec. 27-4-3.. Drlg. 2,300 ft.

WALLACE COUNTY

Morton & Entyre's No. 1 Parker, SE cor. NW SW Sec. 30-13-41w ..... Rig.

WILDCAT OPERATIONS IN NEBRASKA

(Descriptions are East unless otherwise marked)

FRANKLIN COUNTY

U. R. Drlg. Co.'s No. 1 Brunkle (twin well), C NW SW NE Sec. 2-3n-13w ..... Rig.

CHASE COUNTY

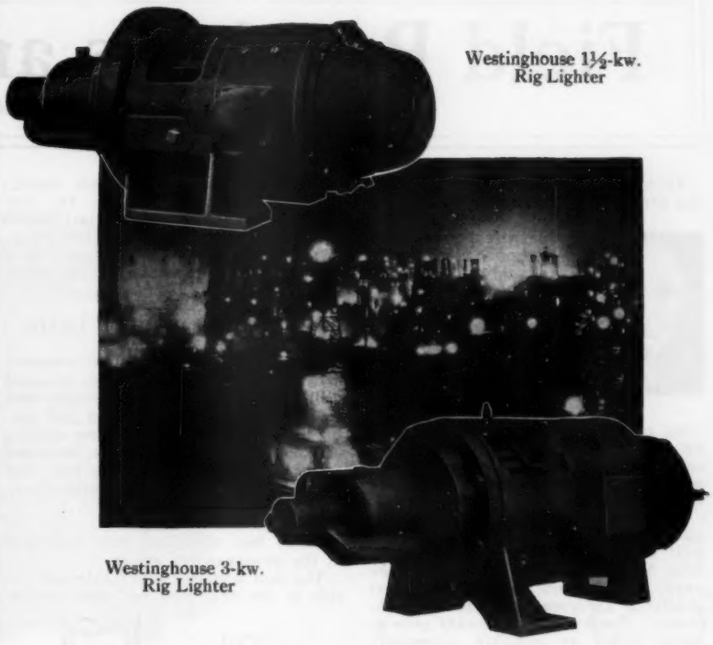
Chase Pet. Co.'s No. 1 Ingold, C NE Sec. 24-6n-38w ..... Total depth 4,050 ft.; cementing 6-in. csg.

FURNAS COUNTY

Southwestern Pet. Corp. of Nebraska's No. 1 Montague, SE SW SW Sec. 28-1n-22w ..... Shut down 1,510 ft.
Graham Bros.' No. 1 Edwards, NW SW Sec. 13-2n-22w... Shut down 2,150 ft.

WEBSTER COUNTY

Mid-States Exploration Co.'s No. 1 Platt, C SE one-half Sec. 3-1n-11w ..... Shut down 555 ft.



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THEN watch production speed up. It will help to bring your well in quicker.

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Detailed information on Westinghouse rig lighters can be obtained from any branch of the Oil Well Supply Company, or from the National Supply Companies, located in all oil fields, or from any Westinghouse district office.

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Field Problems and Their Solution

EDITED BY THOMAS F. SMILEY

In order that men connected with the drilling, producing and transporting branches of the petroleum industry may procure quickly a solution of many problems confronting them from time to time in their work, The Oil and Gas Journal has arranged with leading engineers and other recognized authorities to answer questions submitted by readers of this publication pertaining to the work of drilling and producing crude oil and transporting this product.

Everyone is invited to submit questions freely. These questions will be submitted to proper authorities by Mr. Smiley, who edits the page, and answers, based on the best available information, will be published. Each question should give as much detail as possible, especially where it relates to matters where depths of sands, types of sands and operations on adjoining properties would have a bearing on the problem involved. The source of all questions will be considered as confidential and only initials will be published in connection with the question.

In this connection, The Oil and Gas Journal will be glad to publish articles from field men who have devised new methods or practices which are improvements.

In case an immediate answer is important, one will be given by mail if the writer requests it.

LUBRICATING THE WIRE LINE

Please tell me what is considered the best practice in lubricating the drilling line. In the field where I work we generally put crude oil on the line while it is on the hoisting drum. This seems to make the line work very well, but I have been told that it is not a good plan and that other ways of lubricating the line will lengthen its life.—E. L. E.

Lubrication of the drilling line is extremely important. The practice which prevails in your field is not always a commendable one. Where the crude oil is corrosive owing to sulphur content, the effect on the line is necessarily injurious. And even if the crude is not corrosive its use as a lubricant may be rather wasteful, as only a fraction of the oil has lubricating qualities, and to obtain the same degree of lubrication that could be obtained from a lubricating oil or grease much more crude would be required. W. C. Thomas, Houston, Tex., manager of drilling and production for the Vacuum Oil Co., declares his company prolongs the life of its drilling lines 25 to even 75 per cent through proper lubrication. He says:

"The life of a wire line is largely dependent on the core. The lubricant placed in the core of the line at the factory will not lubricate the line adequately throughout its life and additional lubrication must be furnished. Line service can be increased about 50 per cent by proper field lubrication."

On the subject of lubricating the wire line, the Yellow Strand, published by the Broderick & Bascom Rope Co., says:

"Before being put into storage, each rotary line may be run through a trough of heavy heated lubricant, the line being kept submerged by a row of sheaves. The line is lubricated at the rate of 10 feet a minute. Each line absorbs 15 gallons of lubricant. The cost of the entire treatment is about $40 per line, a small sum compared with the saving effected. The lines so treated reel more readily, retain their bending quality, are kept rustproof and most certainly last longer.

"Such a trough may be made easily from a piece of old casing, heated by a gas burner made of a length of perforated gas pipe."

PROBLEM IN DERRICK LOADS

What is the relative load on a derrick handling 5,500 feet of 6-inch 30-pound drill pipe in a hole full of rotary mud weighing 10 pounds per gallon and having a gravity of 1.2, and setting a string of 5,500 feet of 9-inch A.P.I. 40-pound casing in the same hole using two float plugs in the bottom of the casing?—E. S. T.

These two conditions are illustrated in the accompanying sketch.

The mud is shown both inside and outside of the drill pipe and this problem

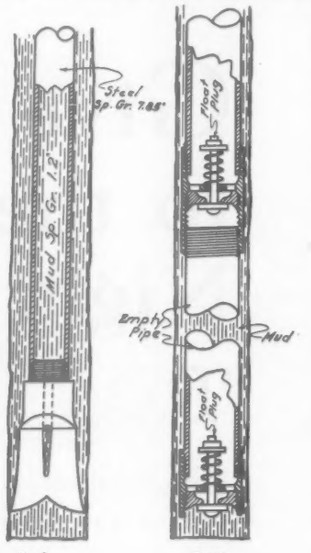


FIG. 1. DRILL PIPE CONDITION

FIG. 2. CASING CONDITION

is solved by estimating the displacement that occurs through replacement of mud by the string of drill pipe.

Specific gravity of iron: 7.85.

Specific gravity of mud: 1.2.

	Pounds
5,500 feet of 30-pound pipe weighs..	165,000
Tool joints	12,830
6-inch swivel	1,775
6-inch Kelly 30 feet long	2,905
11-inch rock bit	1,006
Total weight	183,516

Equation: Specific gravity of iron is to specific gravity of mud as weight of drill pipe is to x.

Substituting:

7.5 : 1.2 :: 183,516 : 28,053 pounds.

	Pounds
Total weight	183,516
Mud displacement	28,053
Net load on derrick	155,463

The second problem differs from the first in that the interior of the 9-inch pipe is theoretically empty. Therefore, the law of Archimedes relative to buoyancy is applicable, and is stated as follows:

"The buoyancy force exerted by a liquid is exactly equal to the weight of the displaced liquid."

"A floating body displaces its own weight of the liquid in which it floats."

Therefore, the cubic feet of volume of the 9-inch pipe O.D. is 2,429.9 cubic feet and the weight of 1 cubic foot of 1.2 specific gravity mud is 62.5 pounds × 1.2 or 75 pounds.

The mud displaced will equal therefore 2,429.9 cubic feet × 75 pounds per cubic foot or 182,242.5 pounds.

	Pounds
The weight of 5,500 feet of 40-pound pipe is	220,000
Buoyancy due to mud displaced	182,242
Net load	37,757

In this second proposition it is assumed that no mud is pumped into the casing while it is being set to remove cavings nor any leak past valves in the float plugs to permit fluid to enter into the casing.

This shows that the derrick is required to handle a load of 117,706 pounds more when the drill pipe is hoisted than when the casing is being set. The number of casing lines in the derrick is neglected as the problem does not involve power required for the respective duties.

HOW TORSION BALANCE WORKS

May I ask you to explain to me as briefly as possible how the torsion balance works in operation? I would like to know too something about its working parts. Can you refer me to any literature on geophysical instruments and to the torsion balance in particular?—O. U. K.

There is a growing literature dealing with geophysical methods of prospecting for petroleum. A book of special value is "Geophysical Prospecting," published by the American Institute of Mining and Metallurgical Engineers, New York. It contains papers and discussions presented at meetings of the institute held in New York and in Boston in 1928.

"Geophysical Methods of Prospecting" by A. E. Eve and D. A. Keys is published as Technical Paper 420 and may be obtained by sending 10 cents to the Superintendent of Documents, United States Government Printing Office, Washington, D. C.

The following description of the torsion balance is given by Donald C. Barton, consulting geologist and geophysicist of Houston, Tex.:

"The working system of the Eotvos torsion balance consists essentially of a torsion wire suspended at its upper end and carrying at its lower end a freely swinging horizontal aluminum bar. A gold or platinum weight is fastened at one end of the bar and an equal weight is suspended by a fine wire from the other end of the bar. If a horizontal moment of rotation acts on the weights, the bar tends to rotate and to twist the torsion wire; the latter tends to resist the torsion; and the balance bar comes to rest when the resistance of the wire to torsion is equal to the torque. If the rotation of the wire is small, the resistance of the wire is directly proportional to the angular amount of the torsion.

"The torque necessary to twist the torsion wire through any given angle can be determined in the laboratory and a coefficient of torsion can be calculated for the wire. If an unknown torque causes a rotation of the bar and if the torsion coefficient of the torsion wire is known, the magnitude of the torque can be determined by measuring the angle through which the balance bar has turned.

"The only practical improvement that has been made in Baron Eotvos' original design of the essential working system of the torsion balance is the Z-shaped balance bar introduced by Schweydar of Berlin. The balance bar has roughly the shape of a "Z" on its side in a vertical plane; and the weights are fastened rigidly to the ends of the upper and lower arms of the "Z"; the torsion wire is thereby lowered without lowering the center of gravity of the instrument. Various other modifications of the balance have been designed and are being worked on, but no other modification of the essential working system of the balance has been perfected."

For a less technical description of this instrument it is suggested that you read the answer to a question by R. A. D. in the Field Problems page of May 3, 1929. You will find of interest also an article in The Oil and Gas Journal of December 1, 1927, "Science Employed in Search of Oil." Different geophysical instruments are described in nontechnical language.

WHY WAS IT CALLED THAT?

MOUSETRAP

This is a fishing tool with a small clapper in the bottom of a 5-foot piece of pipe and this clapper looks like the trap door in the old type of mousetraps. The tool is used for cutting and fishing out rope when matted in the well, or for taking out tubing, wood or steel sucker rods or any small object.

REASONS FOR BACK TWIST

Why do cable tool drillers put a back twist in their drilling line before they hook on to the clamps and start drilling?—F. G. B.

As in the case of many other things done in the oil fields around drilling wells the reasons seem somewhat hazy. One driller will state he does it for one effect and another will name quite another benefit.

It has been stated that "back twist" was put in drilling cable to turn the tools in the hole slowly as drilling progresses so that the cutting edge of the bit will not strike in the same place repeatedly.

A second reason for twisting the line is to take out the kinks that would occur above the clamps in the loose line in the derrick after drilling starts.

To decide which result actually was accomplished in an effective manner engineers for the Williamsport Wire Rope Co. recently made tests on the drilling floor and found that the twist above the clamps did remove the kinks from the line, but that the twist below the clamps did not have any material effect on the movement of the tools in the hole.

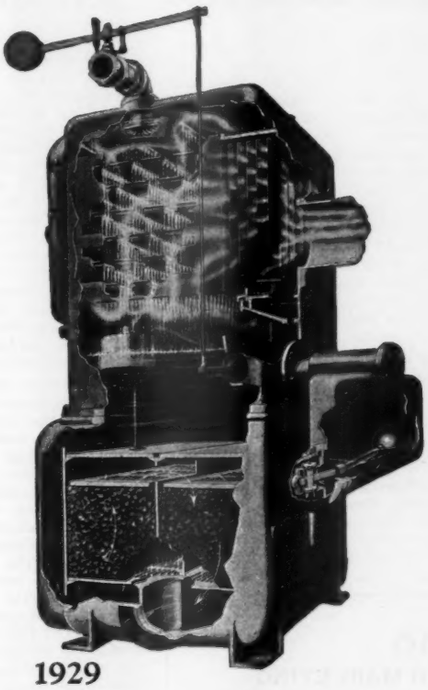
The twist is always in the direction of the "lay" of the line and its tendency is to tighten the strands and when the loose line between the clamps and the bullwheels hangs in the derrick it does not kink as it would do if the twist had not been taken.

WORLD'S DEEPEST WELL

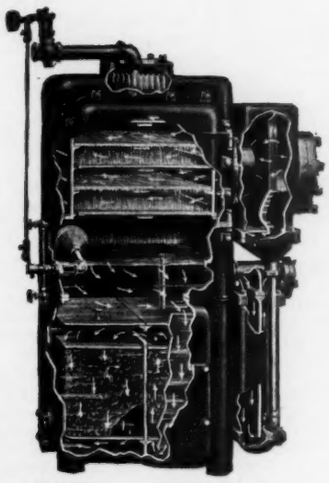
Please advise us the depth and location of the deepest well in the world.—J. W. P.

The world's deepest completed well is Texon Oil & Land Co.'s Group No. 1 Oill Corp. No. 1-B University, which is 8,525 feet deep. This well is 250 feet from the west line and 2,728 feet from the north line of Section 36, Block 9, University of Texas land in Reagan County, Texas.

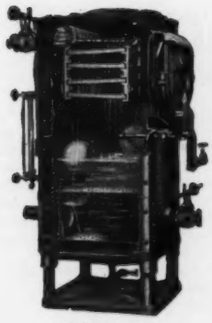
The deepest drilling well is the Shell Petroleum Corp.'s Mesa No. 11 well on top of Signal Hill, California. This hole established a new world record by reaching a lower depth than the Texon. A recent report showed the bit at a depth of 8,558 feet. It may be carried to 10,000 feet unless mechanical trouble prevents. It cored some oil sand below the 8,000-foot level.



1929



1920



1910

The Type N Heater is available in Standard, Total Deaerating and Metering Types. Write for Bulletin W-210 B-1 . . . Today.

Progress . . .
in FEEDWATER HEATER *design and performance by* Worthington

TYPICAL of the development in power service equipment during the past two decades, is the important progress made in Worthington *Open Type* Stationary Boiler Feedwater Heaters.

In 1910, the Worthington Heater was fully abreast of contemporary advancement. Among its features were large perforated pans, composite shell, single pass filter, ball float, and cross flow. However, it was non-deaerating and its overload capacity was low.

Ten years later, the 1920 Heater showed such improvements as large corrugated pans, shell in one or two pieces with all joints gasketed, two-pass filter, and counter flow. It was still non-deaerating, but capable of greater overloads than the 1910 type.

Today, the 1929 Standard Type N Heater embodies all the good features of its predecessors and, in addition, it deaerates the water to 0.1 c.c. oxygen per litre. Its improved serrated pan construction breaks up the water into fine particles and permits maximum exposure to the steam. This feature, with the employment of the counter-current principle of heat transfer, produces high feedwater temperatures with resultant deaeration and high degree of precipitation of scale-forming matter. The effectiveness of this pan construction is not impaired by scale deposits. Other notable improvements are a non-logging float and a multiple-baffle oil separator.

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H-12

Of Interest to Sales Departments

Gradual Change in Design of Airplane Fueling Facilities

By B. G. Brown
Associated Oil Co.*

One of the many problems of air travel which has been given serious attention by the leading oil companies is that of providing proper fueling facilities for airplanes at airports. In the past it was considered sufficient to roll a drum or two of gasoline out to the edge of the flying field and bucket the gasoline into the fuel tank. With the limited amount of flying a few years ago, anything more elaborate was not necessary. The tremendous increase in flying which has occurred almost over night has made such a method obsolete and a better method

Fueling an airplane at Oakland airport.

imperative. Transport planes flying over regularly established air ways and making stops on a scheduled run naturally have to be fueled efficiently and, like fast trains, cannot depend on slip-shod methods. Local flying schools and sightseeing planes have also increased, and this has added greatly to the demand for better service at flying fields.

The equipment used for fueling an automobile cannot be used for airplanes for several reasons. Airplanes are more difficult to maneauver on the ground than automobiles and cannot taxi with safety to a gasoline pump which projects above the ground. For this reason facilities must be provided which offer no obstruction and which can be placed away from buildings or other dangerous structures. Ordinary gasoline pumps are furthermore too slow, delivering only 5 or

(Continued on Page 284)

*The Record.

PROGRAM ANNOUNCED FOR TAX CONFERENCE

Dr. Gustav Egloff of the Universal Oil Products Co., Chicago, will address the North American Gasoline Tax Conference which will hold its annual meeting at Detroit August 7, 8 and 9. Doctor Egloff will speak on the subject, "The Gasoline of the Future."

Frank E. Packard, general attorney of the Standard Oil Co. of Indiana, will speak on the subject, "The Inevitable in Gas Tax Tendencies." Other speakers include W. S. Booton of Tennessee, James Duce of Colorado and Hjalmar Nilsson of Minnesota. Mr. Nilsson will discuss the feasibility of inspecting lubricants.

According to William A. McAtee, Jefferson, Mo., president of the conference, the three days will be devoted to the discussion of all problems connected with the state inspection and gasoline tax laws. A large attendance at the conference is already assured.

COLOR EXEMPTED GASOLINE

AUSTIN, Tex., July 20.—Coloring all gasoline which is exempted from the state tax has been suggested as a means of preventing fraud in hearings held in connection with the new gasoline tax bill. The new law proposes to exempt all gasoline from the payment of the tax except that used on the highways.

Under the plan suggested, the exempted gasoline would be colored purple to distinguish it from the taxable gasoline. A demonstration held here showed that the gasoline could easily be colored. The main objection is heard from dry cleaners who state that coloring the gasoline would make it impossible for use in their business.

DIESEL-POWERED SHIPS

NEW YORK, July 19.—The latest addition to the rapidly growing fleet of Tide Water Oil Co. vessels, the motorship "Tide Water" has just been placed in service.

The ship was built by the Pusey & Jones Corp. at its shipyard in Wilmington, Del. She is of the latest type construction and the propulsion machinery consists of two Diesel engines, designed to develop 625 B.H.P. and can attain a speed of 10½ knots an hour. Her length is 267 feet with a beam of 44 feet and she has a displacement of 3,000 tons. As she has no stacks and only a low mast and draws comparatively little water she is well adapted for the coastwise service.

DISTRICT OF COLUMBIA GASOLINE DEMAND GAINS

WASHINGTON, D. C., July 20.—Revenues derived from the 2-cent tax on gasoline in the District of Columbia, which is only another designation of the city of Washington, showed an unprecedented increase in the fiscal year ended June 30, according to a report submitted today to Maj. Daniel J. Donovan, district auditor and budget officer, by Ghatham M. Towers, collector of taxes.

The motor fuel tax, the report showed, added $1,336,371 to the coffers of the district, or $183,930 more than in the preceding year. The previous largest increase was recorded in the 1926 fiscal year when the gasoline tax revenues exceeded those of 1925 by $162,298.

Figures compiled by Major Donovan show that the gasoline tax fund has mounted consistently in the five years it has been collected. The total for the 1925 fiscal year, the first year in which the tax was imposed, amounted to $778,651. In 1926 the amount jumped to $941,949 and the following year it passed the $1,000,000 mark, showing a total of $1,057,850. In the 1928 fiscal year the tax produced $1,142,441, reaching its new high peak in the last fiscal year just closed.

TEXAS COMPANY ENTERS AUSTRALIAN OIL MARKET

Invasion of Australia's markets by The Texas Company of California was started recently with the departure from Los Angeles harbor of the tanker Australia. The tanker, one of the largest motorized petroleum carriers afloat, took out 130,000 bbls. of gasoline for Fremantle, Melbourne and Brisbane, where storage bases have been erected in advance. The Australia is the former Mary Ellen O'Neil of the California Petroleum Corp., recently merged with The Texas Company. The initial shipment is the forerunner of a regular service to the Antipodes by tankers of The Texas Company, which has erected storage facilities and made elaborate arrangements for distribution to the retail trade through scores of service stations distributed throughout the territory.

Appreciating the value of a proper entree, the company has equipped the Australia's entire crew with uniforms, and has added a corps of chefs to contrive delectable things for the entertainment expected on the maiden trip. A second ship, the chartered Norwegian tanker Hilda Knudsen, will arrive at the Australia bases shortly after the Australia, and other sailings from here will follow frequently. The Texas Company is the newest entry into the Antipodes' trade, which is served by the Standard Oil Companies of California and New York, Vacuum Oil Co., Gilmore Oil Co. and the Union Oil Co and Atlantic Refining Co., the latter operating together the past year under the name of Atlantic Union Oil Co., Ltd. While all ship refined products in bulk, many other local concerns ship cased goods to the same territory.

Who's Who
IN PETROLEUM REFINING AND MARKETING

By C. O. Willson

Thirteenth of a series of articles describing briefly the operations of the major refining and marketing companies in United States.

Cities Service Co.

The Cities Service Co., one of the largest public utility organizations in United States, is directly interested in the oil business through several subsidiary companies. These companies are engaged in all branches of the business and the refining and marketing facilities have been enlarged in line with the general expansion of oil operations.

At present the company's refineries are operated by three subsidiary companies. These companies and the capacities of their refineries are as follows:

Empire Oil & Refining Co.

Location	Daily Crude Oil Capacity
Cushing, Okla.	5,000
Okmulgee, Okla.	4,000
Ponca City, Okla.	7,500
Gainesville, Tex.	5,000
*East Chicago, Ind.	15,000
Total	36,500

*Under construction.

Cities Service Refining Co.

East Braintree, Mass.	15,000

Crew Levick Co.

Titusville, Pa.	3,000
Grand total	54,500

While these companies are operated separately the general management of operations centers in the New York offices of the Cities Service Co. The Empire operating offices are maintained at Tulsa, Cities Service Refining Co. at Boston and Crew Levick Co. at Philadelphia. All except the Gainesville, Cushing and East Chicago refineries have lubricating oil plants. The East Chicago refinery will probably start operating about the first of next year.

Marketing Companies

Most of the bulk and retail stations of the Cities Service Co. are operated under the name of the Cities Service Oil Co., a subsidiary of the Empire Oil & Refining Co. with general offices in Tulsa. The company has expanded its market outlets rapidly in the past few years in an area which extends east from the Rocky Mountains to the east coast except for part of the southeast territory.

In its expansion program the company has acquired some of the largest independent jobbing companies of the Middle West and East. In some cases the names of these jobbing concerns have not been changed. Included in the list of these companies are the C. H. Lockwood Oil Co. of Wisconsin and Winona Oil Co. of Minnesota.

In the east the Crew Levick Co. operates a number of stations under its own name and in Massachusetts the Cities Service Refining Co. has stations. At the close of 1928 all the marketing companies owned by the Cities Service companies were operating 398 bulk stations and 549 service stations. This does not include the chain of stations acquired from the Louisiana Oil Refining Corp. in Ohio and other properties recently purchased.

It is understood that with the completion of the East Chicago refinery the company expects to enlarge its direct outlets in the Middle West to take care of the combined capacity of this plant and the Oklahoma plants. With the East Braintree plant on the coast, the company is in a position to expand its marketing facilities in the coastal areas.

The Cities Service Co., through the Cities Service Export Co., is an important factor in foreign markets. In addition to the products of its own refineries the export company is a large buyer from other refineries in this country.

It is believed that the expansion of Cities Service refining and marketing facilities will continue with the national distribution, the goal to be obtained. The company recently incorporated a subsidiary company to operate producing properties in California. The company sells lubricating oils on the West Coast but at present does not have a refinery or company-owned marketing facilities.

OIL AND AUTOMOTIVE LABORATORY SYSTEM

NEW YORK, July 20.—Ethyl Gasoline Corp., owned jointly by General Motors Corp. and the Standard Oil Co. of New Jersey, has completed the organization of a natural system of laboratories, linking the oil and the automotive industries in an entirely new and close working association with chemistry and engineering.

This development, it is pointed out by the sponsors, "substitutes science for empiricism in determining gasoline quality and signals an advance without parallel in the history of oil marketing."

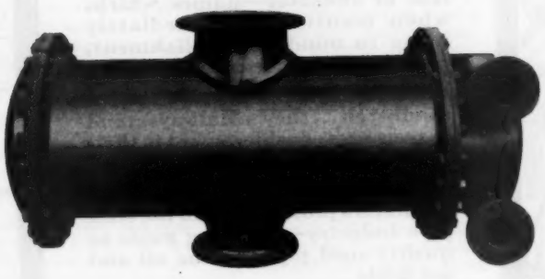
The system embraces a chemical laboratory at Yonkers, N. Y., devoted to fundamental scientific research in motor fuels; a technical laboratory in Detroit to aid automobile manufacturers in solving problems of construction, and a group of fuel testing laboratories in various centers of the country, advantageously situated so as to serve the largest possible territory.

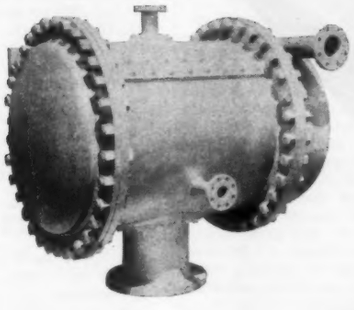
More than 50 of the leading oil refining companies in the United States and Canada are co-operating with the laboratories already established and functioning in Omaha, New Orleans, Yonkers and Detroit.

The Yonkers laboratory is the "head" of the system. It is under the direction of Dr. Graham Edge, former head of the department of chemistry, University of Virginia. This laboratory is continuing the research work formerly conducted in the General Motors laboratory in Dayton, Ohio, which, after 33,000 compounds had been tested, finally resulted in the discovery of Ethyl fluid. Through the new chain of laboratories as outlined Ethyl fluid, the chief constituent of which is tetraethyl lead and when mixed with ordinary gasoline forms Ethyl gasoline, is brought under close inspection and control.

Reflux Condensers

TULSA TYPE





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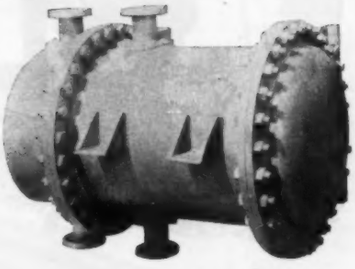

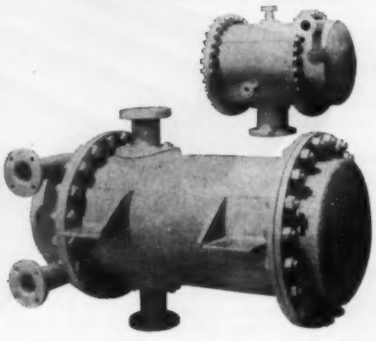

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TWO AREAS PRODUCED MOST OF THE SURPLUS

(Continued from Page 131)

the last half of the year than in the first six months.

Many Big Fields Declined

Among the major fields of the United States the declines in production in the first half of this year as compared with the same period last year were not marked by big figures. The most severe drop in crude output was that of the Earlsboro and Bowlegs Pools in the Seminole area in Seminole County, Oklahoma. Earlsboro declined 7,266,989 bbls. and Bowlegs 6,824,179 bbls. Seminole City, the first of the Seminole pools, dropped off 3,543,098 bbls. The great Burbank Field, which has become a definitely settled producer, produced 2,912,573 bbls. less than in the same period last year. The Hendricks Pool in Winkler County, which has never been permitted to produce its capacity, was held back this year to such an extent that Winkler County's output in the first half of the year was 629,681 bbls. below its showing in the first half of 1928. The McCamey Taylor, Church-Fields, Big Lake, Borger, Spindletop Pools in Texas were among the big pools that have shown a steady drop in output. Smackover in Arkansas, and Salt Creek in Wyoming, among the world's most noted pools, kept on slipping downward.

Five of the major pools in California showed more production than in the same period last year the greatest outside of Santa Fe Springs being Elwood-Goleta which produced only 35,189 bbls. in the first half of last year and 4,450,301 bbls. in the first half of this year, a gain of 4,415,112 bbls. and Long Beach with a gain of 5,938,420 bbls. Deeper drilling was the cause of the tremendous increase in the Santa Fe Springs and Long Beach Fields, while Elwood is a new field.

Many Wells Abandoned

The low price of crude oil caused the abandonment or shutting down of a large number of oil wells that became a loss to their owners. The cost of lifting the oil was more than the sale value of it. At the beginning of the year there were 322,338 producing oil wells reported in the United States. At the close of June there were 307,037 producing wells reported. Many were shut down but an unusual number are reported as having been finally abandoned. In Oklahoma alone the producing oil wells at the beginning of 1929 numbered 61,555, but at the close of June there were only 57,385 listed as active producers. California listed 10,711 at the beginning of the year and 10,305 on June 30. Arkansas dropped from 4,440 wells to 3,792 in six months. At the close of June, 1928, 10,961 California wells were listed as actively producing, or 656 fewer wells than on June 30 this year, after a year of added development work.

CANADIAN FIELDS

(Continued from Page 76)

rigging up to spud in. Hylo Oils' No. 1, LSD 12, same section, has spudded in.

East Crest's No. 2, LSD 4, Section 16-19-2w5, has derrick up to spud in before August 1.

On the Dallas lease, Calmont Oils' Nos. 7 and 8, LSD 11, Section 20-19-2w5, are digging cellar.

Alberta Pacific Consolidated's No. 2, LSD 5, Section 20-19-2w5, is reported rigging up.

In the north end, Spooner Oils' No. 2, Section 24-20-3w5, is drilling at 5,607 feet, some 532 feet in the lime, with a little additional wet gas. At this depth it would be a fair producer, but will be carried 1,000 feet in the lime if necessary to secure big production. Spooner Oil's No. 3, same section, has cellar dug, and may spud in before August 1.

Model Oils' No. 1, LSD 8, Section 22-20-3w5, got the Home sands, with some shows of gas, at 5,048 feet, and is expected to reach the deep lime around 5,500 feet. Calmont Oils' No. 5, LSD 3, Section 34-20-3w5, has spudded in.

Shows of Heavy Crude

An important development in the north end has been the encountering of shows of heavy crude in Weymarn Petroleum's No. 1 Black Diamond, LSD 1, Section 3-20-3w5. The shows were reported between 1,520 and 1,600 feet, and the crude is described as a thick black oil. The Black Diamond structure is to the north of the field, 2 miles west of the Turner Valley proper, and apparently an outlying fold separated from the main fold by a fault. The structure was first tested at the time of the Calgary boom in 1914 by the Black Diamond Oil Co. A number of other tests are now drilling on the structure. Outwest Petroleum's No. 1, LSD 5, Section 35-19-3w5, a half mile south of Weymarn's No. 1, is reported drilling below 1,600 feet after encountering gas shows at the Benton-Blairmore contact. The log here indicates the lime should be reached at less than 3,500 feet. Vanberta Oils' Ltd., of Vancouver, is reported rigging up for No. 1 test in SW Section 35-19-3w5. Roselite Oils' No. 1, NE Section 27-19-3w5, is working on derrick. Vanguard Oils, Ltd., has contracted for a rotary test in SE Section 34-19-3w5, to spud in next month. In the extreme north end Invader Oil's No. 1, LSD 10, Section 9-21-3w5, is reported rigged up ready to spud in.

Cameron Petroleum's No. 1, LSD 8, Section 36-20-3w5, is working on derrick.

In the central section, Calmont Oils' No. 2, LSD 2, Section 1-20-3w5, has derrick up. Ranger Oil Co. has spotted its No. 1 test in LSD 8, Section 1-20-3w5, and has derrick timbers ordered.

In the north, Innerfold Oils, Ltd., is starting work on its No. 1, 2 miles north and west of Angus' No. 1, on the Waite Valley structure. This company holds 1,240 acres on this structure and 250 acres on the Highwood structure. Officers include president, George Kidd; vice president, J. P. Fell; directors, Neil McQueen, A. C. Taylor, Norman R. Whittall; secretary-treasurer, W. W. Boultbee.

New Tests

Bush Petroleum Corp. of Calgary is preparing for its No. 1 test in LSD 13-14, Section 6-22-3w5. A second test may be drilled in LSD 1, Section 11-20-3w5, adoining the old McDougall-Segur Exploration Co.'s location. Bush Petroleum Corporation, Ltd. officers are: president, O. B. Bush, Vancouver; vice president, George W. Head; secretary-treasurer, R. W. McKitrick; managing director, George G. Fleming; directors, George N. McBain, W. H. McLean.

In the south end, Director Oils' No. 1 has been spotted in LSD 16, Section 28-18-2w5. Director Oils, Ltd., officers are: president, J. Newton Ker; vice presidents, J. Fyfe Smith and Stuart Cameron; secretary-treasurer, H. D. Layfield; managing director, Frank Bell, director, Earl Jeffreys.

George L. Parrish and F. R. Robbins of Greensburg, Ind., recently visited Calgary in connection with prospective development of acreage still held by the Indiana-Alberta Oil Co. and the Sheep River Oil Co. southeast of Turner Valley.

The process of incorporating new oil companies continues steadily. The most recent list of Dominion charters shows 19 companies, of which 10 have offices in Calgary, two each in Edmonton and Toronto, four in Vancouver and one in Winnipeg.

Six Months Production

Revised official figures of Turner Valley production for the first six months of 1929 show a total of 370,101 bbls. compared with 481,357 bbls. for the entire 12 months of 1928. Home Oil Co.'s No. 1, which came into production late in February, had the record production for an individual well, making 89,753 bbls., with Royalite's No. 4 a close second with 89,709 bbls. Home's No. 2, in production since the latter part of May, made 18,819 bbls., while Royalite's No. 8 was fourth with 17,796 bbls. Royalite's No. 17 yielded 13,888 bbls.; Illinois-Alberta's No. 1 had 12,927 and the Dalhousie wells made 18,794. The chief other producers were: McLeod wells, 10,886; Spooner wells, 5,775; McDougall-Segur wells, 4,190. A recent estimate places the average cost of Turner Valley wells at $100,000 and the outlay to date for actual development around $10,000,000.

On the Sinclair structure, Joseph H. Sinclair has located No. 2 test for Banner Oils, Ltd., in NE Section 35-17-3w5, 1½ miles southeast of No. 1.

Gibraltar Oil's No. 1, LSD 4, Section 28-20-3w5, is constructing camp and hauling equipment. Spartan Oil Co.'s No. 1, LSD 2, Section 35-21-4w5, is working on derrick with equipment on location.

In the Morley Reserve area, Melbourne Oils' No. 1 is drilling below 2,300 feet with slight shows of oil.

On the Elbow River, Herron Petroleum's No. 1 is working on derrick and will spud in in August.

On the Calling Valley structure, Anglo-Indian Oils' No. 1 has been finally spotted in LSD 4, Section 31-21-2w5.

Old Man River

In the southern foothills, Raven Oils, Ltd., has located a test on the north bank of the Old Man River near Maycroft. A drilling outfit has been ordered and the test will spud in next month.

In the Skiff Field, southern Alberta, Lion's Gate Oil Co.'s No. 1, LSD 1, Section 33-6-15w4, is rigging up.

On the Beaver Dome, Madison Oils' No. 2, LSD 10, Section 24-2-11w4, has a heavy flow of gas in the Dakota formation, estimated 10,000,000 feet a day.

On the Blood Reserve, three or more structure tests will be drilled by the Commonwealth company before locating a commercial test.

Holgar Petroleums' No. 1, LSD 1, Section 11-1-17w4, is rigged up ready to spud in. Ko-Tops Oils' No. 1, SE Section 2-1-17w4, is working on derrick.

In the Pincher Creek area, Weymarn Petroleum's Mount Royal No. 1, LSD 4, Section 7-6-1w5, is making new hole, with additional wet gas production reported.

Wainwright Field

In the Wainwright Field, east-central Alberta, Wainwell Oils' No. 4, LSD 15, Section 36-44-7w4, is reported making better than 100 bbls. a day on the pump. Wainwright Petroleums' No. 1, LSD 6, Section 30-45-6w4, will be a contract test to be started in August. Fabyan Petroleums' No. 2, LSD 8, Section 18-45-7w4, has been cleaned and is reported to show 950 lbs. gas pressure at 2,730 feet, with some oil. Hargal Oils' No. 1, LSD 13, Section 2-45-7w4, has derrick timbers on location.

Admiral Oils' No. 1, LSD 16, Section 36-44-7w4, offsetting Wainwell's No. 1, has spudded in with rotary outfit. The test is expected to finish inside two months. Admiral's No. 2 will be drilled on the Waite Valley structure in the southern foothills. Beaumont Oils' No. 1 (Brandon Syndicate) LSD 9, Section 10-45-7w4, is rigging up for rotary test. Bethwain's No. 1 is rigging up for rotary. Daugherty Oils' No. 1 has derrick up. Peninsular Petroleums' No. 1 has derrick up for rotary test.

In the Ribstone Field, Meridian Oils' No. 1, LSD 1, Section 16-45-1w4, is bailing between 50 and 100 bbls. a day, operating daylight shift. Oil stands about 600 feet in the hole and has not lowered below 315 feet. It may be possible shortly to put it on the pump.

Athadome Oil Co. has leased from the Dominion Government 32,000 acres on a structure north of Edmonton, selected by Oscar T. Ross, United States geologist, and drilling operations will be started this summer. Officers are: president, M. C. Cowan, Toronto; secretary-treasurer, Major S. J. Robins; directors, James Lyons, Sault Ste. Marie, Dr. T. B. Armstrong and C. Waller, Toronto.

In the Wainwright Field the Duluth syndicate has located its No. 1 test in Section 29-49-10w4, to spud in before August 1.

The Canadian Exploration Co. of Denver, Colo., will operate four field parties in Alberta this year. One party is already at work in the Wainwright area, and two in the foothills. The work is under general direction of Prof. W. C. Toppleman of Boulder, Colo. One test well may be put down in Alberta this season in addition to the test in the Wildcat Hills being drilled by the Frontier syndicate, a subsidiary organization.

Ontario

In Dawn Township, Lambton County, Ontario, Union Natural Gas Co. is starting two new tests for gas, Nos. 40 and 41, in the east end of the Dawn Field. In Howard Township, Union's Ridgetown No. 3 near the Howard-Harwich town line has started drilling.

In the Petrolia Field, Lambton County, Abe Telsey is building a new pumping rig on his oil farm, concession 12, Enniskillen.

SOUTHWEST TEXAS

(Continued from Page 75)

line, completed 2,693 feet, in Edwards. Pumping 150 bbls.

Humble Oil & Refining Co.'s No. A-4 J. L. Northcut, completed 2,704 feet, in Edwards. Pumping 150 bbls.

Humble Oil & Refining Co.'s No. A-3 Clyant Smith, James Hinds Survey, 512 feet north line, 150 feet west line, completed 2,712 feet. Initial production 150 bbls. on pump.

Humble Oil & Refining Co.'s No. B-4 Clyant Smith, James Hinds Survey, 150 feet north and east lines, completed 2,701 feet, swabbing 320 bbls, 40 per cent water.

Humble Oil & Refining Co.'s No. B-5 Clyant Smith (30-A), James Hinds Survey, 512 feet north line, 150 feet east line, at 2,707 feet, in Edwards. Swabbing 320 bbls, 30 per cent water, waiting for pump.

Humble Oil & Refining Co.'s No. 5 L. G. Hanson, James Hinds Survey, completed 2,716 feet. Swabbed 225 bbls., waiting on pump.

Humble Oil & Refining Co. and Luling Oil & Gas Co.'s No. C-3 Floy Gray, James Hinds Survey, completed 2,665 feet, running rods and tubing. Estimate 200 bbls.

Humble Oil & Refining Co. and Luling Oil & Gas Co.'s No. 2 C. F. Dye, James Hinds Survey, completed 2,705 feet, 125 bbls. oil, 50 bbls. water.

Humble Oil & Refining Co. and Luling Oil & Gas Co.'s No. 4 Addie Hinds, James Hinds Survey, completed 2,690 feet, 500 bbls. swabbing.

Humble Oil & Refining Co. and Luling Oil & Gas Co.'s No. 5 Addie Hinds, completed 2,707 feet. Swabbing, no gauge.

Humble Oil & Refining Co. and Luling Oil & Gas Co.'s No. 4 T. A. Tiller, James Hinds Survey, completed 2,685 feet. Flowing by heads 1,000 bbls. daily.

Shell Petroleum Co.'s No. 1 Clyant Smith, completed 2,684 feet. Pumping 120 bbls.

Duval County

G. M. Partee's No. 2 Moody, Survey 60, completed 2,350 feet, 55 bbls.

S. & O. Oil Co.'s No. 5 Hahl, Survey 250, Block 23, completed 2,336 feet, flowing 300 bbls.

Refugio County

Mission Drilling Co.'s No. 1 T. P. Shelly, completed 3,647 feet, flowing 300 to 500 bbls.

Webb County

Magnolia Petroleum Co.'s No. 1 R. Lopez, Survey 455, completed 1,663 feet, 18,000,000 feet gas, 450 lbs. rock pressure.

ABANDONED TESTS

Caldwell County

Humble Oil & Refining Co.'s No. 2 J. A. Northcut, has been abandoned at 3,350 feet in Glenrose. Dry.

Guadalupe County

Mid-Kansas Oil & Gas Co.'s No. 1 Ramon Gonzales, dropped from reports until drilling starts.

Jackson County

The Texas Company's No. 1 Lawrence, dry and abandoned 3,500 feet.

Jim Hogg County

Magnolia Petroleum Co.'s M. S. Bank, Survey 235, plugged and abandoned 3,180 feet.

Medina County

Pearson Oil Co.'s No. 2 Irrigated Farms, abandoned, dry, 1,415 feet.

Refugio County

Houston Gulf Gas Co.'s No. 4 Adkins,

dropped from reports; this is same test as No. 3.

San Patricio County

Magnolia Petroleum Co.'s No. 1 Miller Ranch, dropped; this is duplicate of No. 1 Callie Freeman.

NEW LOCATIONS

Caldwell County

J. W. Allen's No. 1 A. B. Jackson 50-Acres, Spencer Morris Survey, moving in rig.

Humble Oil & Refining Co.'s No. A-5 J. L. Northcut, James Hinds Survey, 226 feet north line, 1,446 feet west line, is rigging up.

Humble Oil & Refining Co.'s No. B-6 Clyant Smith, James Hinds Survey, 150 feet south and east lines, at 43 feet set surface casing.

Humble Oil & Refining Co. and Luling Oil & Gas Co.'s No. 5 C. F. Dye, 492 feet south line, 765 feet west line, at 2,305 feet, drilling in chalk.

Humble Oil & Refining Co. and Luling Oil & Gas Co.'s No. 7-A Floy Gray, set 35 feet of 10-inch surface casing.

Nash, Windfohr & Perry's No. C-3 Davis, 300 feet east of Atlantic No. 1 Davis, 150 feet north line of Davis "C" lease, at 2,415 feet in chalk, topped at 2,395 feet.

The Texas Company's No. 10 Merriwether, 150 feet west line, 300 feet south of No. 7, is rigging up.

Duval County

Magnolia Petroleum Co.'s No. 6 Hahl, Survey 250, Block 24, 150 feet north line, 1,050 feet east line, location.

S. & O. Oil Co.'s No. 6 Hahl, Survey 250, Block 23, 150 feet south line, 1,050 feet east line, at 1,900 feet, drilling.

Live Oak County

Houston Oil Co.'s No. 2-A Brown, M. B. Kilvin Survey, 1,200 feet northeast of No. 1 location.

Medina County

Southern Gas Utilities Co.'s No. 22 M. M. Adams, Mumme Survey, Block 23, 2,308 feet west line, 644 feet south line, at 80 feet, set surface casing.

Refugio County

Wm. F. Morgan's No. 1 City, block south of Mission Drilling Co.'s Huddleston, location.

Mission Drilling Co.'s No. 1 Strauch & Richardson, City, block east of 97, rigging up.

Saxet Gas Co.'s No. 1 John Simpson heirs, City Block 97, has derrick up.

Sun Oil Co.'s No. 2 Rea, location.

Webb County

Carolina-Texas Oil Co.'s No. 8 Benavides, Survey 683, Block 12, 150 feet south line, 450 feet west line, rigging up.

Humble Field-Duval

Humble Oil & Refining Co.'s No. 22 Kohler, Survey 395, located 495 feet west line, 165 feet north line, at 1,854-78 feet, is showing gas, oil and salt water; No. 23 Kohler, Survey 404, located 1,485 feet south and west lines, at 2,231 feet, is drilling; No. 29 Kohler, Survey 395, located 165 feet south and west lines at 1,750 feet is drilling; No. 30 Kohler, Survey 169, located 165 feet north and west lines, at 800 feet is drilling; No. 31 Kohler, Survey 172, located 495 feet east line, 165 feet north line, at 1,778-79 feet is preparing to set casing; No. 32 Kohler, Survey 399, located 495 feet east line, 165 feet south line, is rigging up. Sun Oil Co.'s No. 1 Lopez, Survey 731, 15 feet north line, 2,000 feet east line, at 2,530 feet is drilling.

Randado Field—Jim Hogg

T. J. Conway's No. 3 Leyenderker, Survey 234, rigging up. Magnolia Petroleum Co.'s No. 42 M. S. Bank, Survey 235, located 330 feet west line, 4,254 feet north line, at 3,140 feet is drilling. Randado Oil Corp.'s No. 35 Palacious, Survey 291, Block 2, located 150 feet south line, 450 feet east line, standing at 100 feet.

Driscoll Field

The Texas Company's No. 1 Hyatt, Block 25, Sweeden Farm Tracts, 660 feet east line, 1,960 feet north line, location.

Schoolfield—O'Byrne Field

Magnolia Petroleum Co.'s No. 4 Hahl, Survey 250, Block 24, 150 feet north line, 450 feet east line, set 38 feet of 12½-inch casing; No. 5 Hahl set 42 feet of 12½-inch casing; No. B-7 Hahl, Survey 61, 650 feet south line, 2,950 feet east line, at 3,740 feet is changing to heavier rig. G. M. Partee's No. 2 Moody, Survey 60, located 450 feet west line, 150 feet north line, at 2,348 feet set 6⅝-inch casing. Waiting on cement. S. & O. Oil Co.'s No. 5 Hahl, Survey 250, Block 23, located 750 feet east line, 150 feet south line at 2,200 feet is drilling.

Henne-Winch—Fariss Field

George S. Marshall's No. 4 Holbein, Survey 11, Block 10, Share 3, located 150 feet south and west lines, has derrick up; No. 5 Holbein, Survey 15, Block 10, Share 3, located 150 feet north and west lines, has derrick up. Magnolia Petroleum Co.'s No. 1 J. M. G. Martinez, east half of Survey No. 6, located 150 feet north and west lines, is rigging up. W. R. Shankle's No. 1 Holbein, Las Animas Grant, Share 3, located 150 feet north and west lines, Hogg Ridge Subdivision, is location.

Schott Field—Webb

Livingston & Payne's No. 1 Guerra-Ochoa, Survey 58, located 917 feet east line, 470 feet south line, at 1,647-49 feet, is waiting on cement.

Mid-Ojuelos Field

Crown Central Petroleum Co.'s No. 1 E. Garcia, Survey 463, located 900 feet east line, 150 feet south line, at 1,579 feet total depth, tested dry, standing, waiting orders.

Carolina—Texas Field

Trapshooter Reilly Oil & Royalties Co.'s No. 2 Benavides, Survey 685, located 1,170 feet west line, 150 feet north line, at 1,050 feet, is drilling.

Magnolia-Cole Field

Cole Petroleum Co.'s No. 67 Benavides, Survey 412, Block 12, located 313 feet east line, 160 feet north line, at 38 feet is standing. Magnolia Petroleum Co.'s No. 1 J. G. Valdez, Survey 754, Block 15, located 150 feet south and west lines, is derrick; No. 1 A. Benavides, north half of Survey 660, located 660 feet south and east lines, is location; No. 1 M. Benavides, north half NW quarter Section 660, located 660 feet south and east lines, at 2,420 feet, is drilling; No. 1 C. Benavides, Survey 662, located 660 feet north and east lines, is location; No. 1 R. Lopez, Survey 455, located 660 feet north and west lines, at 1,658-63 feet in sand.

Cole Gas Field

Shepard and others' No. 1 King-Harper, Survey 323, located 337 feet north line, 1,560 feet east line, rigging up. John J. O'Hern's No. 2 Benavides, SE NE Survey 694, located 150 feet north and west lines, is location. O. W. Killam's No. 11 Brni, Survey 3, is a derrick. Magnolia Petroleum Co.'s No. 1 O'Hern-Benavides, Survey 694, Block 2, located 150 feet south and east lines, is location.

Jennings Field—Zapata

South Texas Production Co.'s No. 1 Roy Jennings, Mira Flores Grant Survey, located 18,055 feet southwest lines, 11,040 feet southeast lines, at 2,131 feet is drilling. H. Muckleroy, Jr.'s No. 2 Trevine Survey 66, Block 3, located 150 feet northeast corner, at 1,000 feet, is drilling. Killam-Duggan's No. 5 Cuellar, Cerrito Blanco Grant Survey, located 2,900 feet east line, 1,350 feet south line, is location. South Texas Production Co.'s No. 5 Joe Jennings, Cerrito Blanco Grant Survey, located 2,775 feet northeast lines, 1,585 feet northwest lines, is rigging up.

Mirando Valley Field

O. W. Killiam's No. 1 Flores, Survey 240, located 850 feet southeast lines, 560 feet northeast lines, at 150 feet, is drilling.

Somerset Field—Atascosa

Schimmel Production Co.'s No. 3 H. F. Gayle, C.E.P.I.&M. Survey, Block 2, located 946 feet east of No. 1 location.

Yoast Field—Bastrop

The Texas Company's No. 8 Yoast, A. Garcia Survey, is location.

Pettus Field—Bee

Mission Drilling Co.'s No. 1 Ray at 2,600 feet is trying to pull casing; No. 3 Ray Ranch, 3 miles east of No. 2, at 960 feet is drilling.

Dobrowolski Field—Bexar

Amelia Balzart's No. 3 J. P. Adams, 150 feet from road offsetting Dobrowolski No. 1, has derrick up. W. W. Richardson's No. 1 G. Schmetz estate, P. L. Buquor Survey, 131 feet north line, 150 feet west line, at 210 feet is drilling.

Somerset Field

American Central Oil & Gas Co.'s No. 4 McConnell, W. G. Baker No. 138 Survey, located 806.6 feet east line, 685.5 feet south line, is rigged up and standing.

Gas Ridge Field

Medio Oil Co.'s No. 2 Hamilton Land Development Co., L. Munos Survey, 200 feet east line, 1,375 feet north line, at 470 feet is drilling.

Joe Bruner Field—Caldwell

Tip de Arman's No. 3 G. F. Carter, Hinds Survey, 50 feet north and west lines, is location. E. R. Brawn & C. O. Miller's No. 2 R. W. Carter, Garren Hinds Survey, 150 feet north and west lines, is derrick. Cranfill-Reynolds' No. 3 Hanson, James Hinds Survey, at 2,735 feet is in Edwards; No. A-2 J. L. Northcut, S. Shupe Survey, 300 feet southwest of No. 1, is location; No. A-3 J. Northcut, S. Shupe Survey, located 300 feet northwest of No. 1, at 2,310 feet, is drilling. Forest Oil Co.'s No. 1 M. H. Woods, Isaac Weldon Survey, Block 35, south central part of lease, is location; No. 1 T. Enriquez, Luling Townsite Block 32, center of Lot 30, is location. Gulf Production Co.'s No. 5 J. L. Northcut at 2,670 feet, is waiting on pump; No. 7 J. L. Northcut, James Hinds Survey, at 2,365 feet, is in chalk. T. C. Hadley's No. 1 J. M. Hanson, James Hinds Survey, located 150 feet south and east lines, at 2,640 feet is shut down; No. 3 Merriwether, A. Floyd Survey, at 2,746 feet deepened 3 feet, will make a small pumper; No. 4 Merriwether is derrick. Humble Oil & Refining Co.'s No. B-2 Floy Gray, James Hinds Survey, 150 feet south and east lines, at 2,681 feet is in Edwards, waiting on pump; No. B-3 Floy Gray, James Hinds Survey, 450 feet north line, 150 feet east line of Floy Gray "B" lease, at 2,620 feet set 6⅝-inch casing and waiting on cement; No. D-1 Floy Gray, James Hinds Survey, 664 feet north line, 150 feet east line, at 2,698 feet, is waiting on pump; No. 6 L. G. Hanson, James Hinds Survey, located 100 feet east line, 150 feet south line, at 2,733 feet is in Edwards, drilled plug, swabbing, running rods and tubing; No. B-8 Moses & Baggett, S. Shupe Survey, at 2,259 feet is in Taylor Marl; No. B-9 Moses & Baggett at 2.365 feet is in chalk, standing; No. B-10 Moses & Baggett, S. Shupe Survey, located 1,514 feet south line, 450 feet east line, at 2,662 feet, is drilling in Taylor Marl; No. B-11 Moses & Baggett, S. Shupe Survey, 1,050 feet south line, 750 feet east line, is rigging up rotary; No. B-12 Moses & Baggett, S. Shupe Survey, 450 feet south line, 1,050 feet east line, at 46 feet spudded in and set 10-inch surface casing. No. A-2 J. A. Northcut, James Hinds Survey, located 450 feet south line, 150 feet east line, at 2,475 ft. is drilling. No. A-3 J. L. Northcut, Jams Hinds Survey, located 150 feet north line, 450 feet west line, at 2,385 feet is in chalk; No. B-1 J. L. Northcut at 2,297 feet in chalk, topped 2.225 feet; No. B-3 J. L. Northcut at 43 feet set 10-inch surface casing; No. B-6 Clyant Smith is rigging up; No. B-2 Clyant Smith at 1,744 feet is in shale; Humble Oil & Refining Co. and Luling Oil & Gas Co.'s No. 4 C. F. Dye, James Hinds Survey, 526 feet north line, 150 feet west line, at 2,673 feet is in Edwards; No. A-3 Floy Gray, 150 feet south line, 573 feet west line, at 2,665 feet is in Georgetown; No. A-4 Floy Gray, James Hinds Survey, located 150 feet north line, 750 feet west line, at 2,182 feet, is in Taylor Marl; No. A-5 Floy Gray, James Hinds Survey, 150 feet north and west lines, at 2,325 feet is drilling in chalk; No. A-6 Floy Gray, 525 fet south line, 820 feet west line, at 2,040 feet is drilling; No. C-4 Floy Gray, 571 feet north line, 750 feet west line, at 2,075 feet is in shale; No. C-5 Floy Gray, James Hinds Survey, 150 feet south line, 760 feet west line, at 2,200 feet is drilling in Taylor Marl; No. A-4 M. B. Johnson, 150 feet north line, 573 feet west line, at 2,500 feet is drilling in shale; No. 5 T. A. Tiller, James Hinds Survey, 750 feet east line, 150 feet south line, at 2,644 feet is waiting on cement; No. 6 T. A. Tiller, 450 feet north line,450 feet east line, at 1,255 feet is drilling in shale; Magnolia Petroleum Co.'s No. 1 Merriwether, A. Floyd Survey, 450 feet west line, 100 feet north line, is location. Shell Petroleum Corp.'s No. 2 Clyant Smith, James Hinds Survey, at 2,672 feet, is in Edwards, underreaming. The Texas Company's No. 8 Merriwether at 2,786 feet total depth, is standing, shot casing.

Dale Field

The Texas Company's No. 2 J. Moore, J. Gilbert Survey, located 600 feet northwest lines, 1,600 feet southwest lines, at 1,400 feet is in shale.

Kingsville Field—Kleberg

Humble Oil & Refining Co.'s No. 4 Flato, Section 40, Block 10, 250 feet east line, 450 feet north line, at 6,444 feet is drilling; set 7-inch casing at 5,600 feet.

Agua-Dulce Field—Nueces

Agua Dulce Oil & Gas Co.'s No. 1 Otto Wolters, Section 34, Benton's Pasture at 2,047 feet is standing; R. & G. Corp.'s No. 1 Brown, George H. Paul Subdivision, C SE half NW Section 87 is location; No. 2 Ed Allen, 150 feet north and east lines, at 1,986 feet is standing (sold to Moody-Seagrave interests); Spencer & Rhodes' No. 1 Texas Company fee, 150 feet north and west lines, spudded in.

Whit Point Field—San Patricio

Spencer & Rhodes' No. 1 Texas Company fee at 2,290 feet completed as gas well of very little volume may deepen; discontinued laying field line to well.

Nursey Field—Victoria

Humble Oil & Refining Co.'s No. A-3 J. J. Welder at 3,300 feet drilling.

EAST CENTRAL TEXAS

(Continued from Page 78)

glomerate of sandy shale at 4,408 feet. C. M. Joiner's No. 2 Bradford, Rusk County, is drilling gumbo at 1,211 feet.

Another Test Started

Magnolia Petroleum Co.'s No. 1 Duran, same county, is drilling sticky shale, and in this county another test, Louisiana Petroleum Co.'s No. 1 Alford, has started up. It is in sandy shale at 134 feet after setting 12½-inch surface casing at 92 feet.

Amerada Petroleum Corp's No. 1 Wade, Upshur County, is drilling lime at 4.890 feet, and A. M. Wilborn's No. 1 Hudspeth, same county, is drilling chalk at 2,880 feet. Alexander and associates' No. 1 Anderson, Webb survey, Robertson County, has been shut down with drill stem stuck at 3,310 feet.

In Falls County, Killiam & Phillips' No. 2 Jones is drilling shale at 1,714 feet. Haley & Young's No. 1 Knight, between Luna and Dew, Freestone County, is drilling shale and lime at 4,006 feet.

Fentress and associates' No. 1 Sullivan, Limestone County, tested salt water at 3,190 feet and has been shut down. C. F. Lytle and associates' No. 1 Thompson, Trinity sand test at Mexia, is standing with drill stem stuck at 6,068 feet.

Daily average production of East Central Texas fields for the week ending July 20 was:

Field	Bbls.
Boggy Creek	2,650
Cedar Creek	90
Currie	465
Hill County	30
Mexia	5,410
Minerva	655
Nigger Creek	355
Powell	8,031
Richland	400
Thrall	32
Wortham	1,230
Total	19,348
Week ending July 13	19,510
Decrease	162

CALIFORNIA FIELDS

(Continued from Page 80)

at 6,775 feet. The company also recompleted No. 14 Off, flowing 2,865 bbls. per day from 6,875 feet. This well blew in a few weeks ago flowing at the rate of 11,000 bbls. per day from 6,925 feet. Water broke in a short time later, however, and the hole had to be plugged back to its present depth. A crooked hole problem arose at Santa Fe Springs when

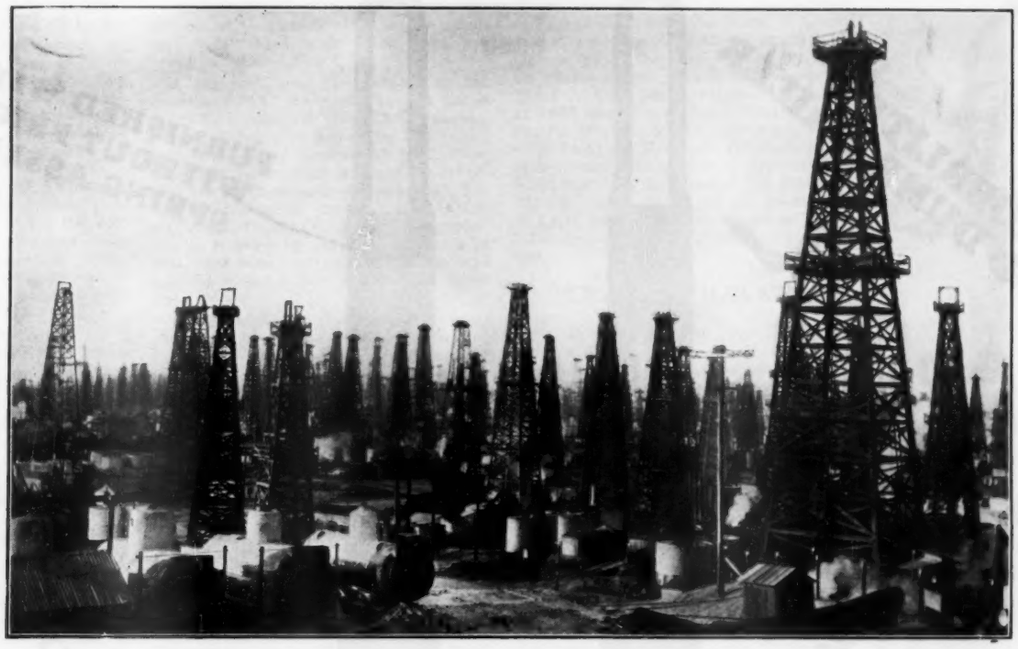


Photo shows Los Angeles basin field in Southern California. Many wells in this field, including the "discovery" well, are equipped with Goodrich Highflex belts.

Because of its construction, this belt gives a *longer service life*

IN belts made the traditional way "internal conflict"—a structural weakness within the belt itself—shortens service life and acts as a bar to belting economy. The very construction of the belt sets up opposing forces. The folded edge is a permanent obstacle to complete flexibility—the insides of the belt work against each other. A moment's study of the panel opposite shows why this is.

The Goodrich Highflex belt, on the other hand, is built without folding the canvas. As a result each ply ends at the edge of the belt, and there is no "internal conflict" to prevent the free flexing of ply on ply. All parts of the belt will work in harmony.

That is why the Highflex principle has been hailed by engineers as one of the most important developments in the entire history of belt construction. That is why Highflex belts are piling up astonishing service records under the trying conditions met with in the oil industry. In one oil pumping operation an engineer reports "that Highflex belts give him 10 months against service of 2 to 8 months of previous belts."

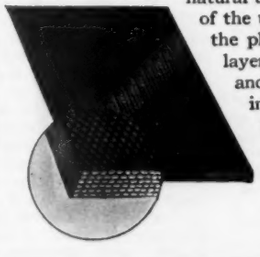
Because of their unique construction principle Highflex belts have no seams to open up, and can be used with either side to the pulley. They eliminate bootlegging, are unaffected by temperature changes, and have excess stretch removed during the process of manufacture.

Fig. 1

Fig. 2

You can test the* Highflex *Principle this easy way

Bend a pad of paper or booklet with the fingers. When viewed from the edge (fig. 1) it assumes a natural uniform curve because of the unhampered action of the plies. Now, if several layers of paper are folded and then bent (fig. 2), you instantly see how the fold distorts the curve and impedes the free movement of the individual layers.



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HINDERLITER

ROTARY STANDARD CABLE

George F. Getty's No. 38 Springs lost circulation while rotating ahead at 4,384 feet. The crew was at a loss to understand where the fluid could be going, but soon found out when the General Petroleum boys started looking around to find out who had killed their No. 145-B Santa Fe, a flowing well producing from 6,811 feet. Getty's project had drilled into the General Petroleum producer, which suddenly turned from an oil well into a water well. If the General Petroleum producer was approximately vertical, Getty's No. 38 had deviated about 100 feet from the perpendicular. Crooked holes have not been very prevalent at Santa Fe Springs in contrast with conditions at Long Beach, where these problems seemed like one continuous nightmare.

Long Beach

Daily production at Long Beach, which has been unusually stable for several months, reflected the completion of eight new wells in the last week, and a check of development work indicates the probable completion of others in the near future, as there are still 131 strings of tools in operation with additional rigs in course of construction. The Shell Oil Co., discoverer of the Long Beach Field, continues to lead the production list with a daily output of 38,000 bbls., followed by the Richfield with 24,000 bbls., Dabney & Johnston with 14,000 bbls., The Texas Company with 10,400 bbls., Union Oil Co. with 5,000 bbls., and the General Petroleum with 3,400 bbls. Dabney & Johnston, the largest single operators in the Long Beach Field at the present time, successfully finished No. 28 Signal, doing 2,340 bbls. of 25.9 gravity oil from the deep zone at 7,309 feet in the past week, and preparations are being made to complete two more potential producers within the next few days. The Delaney Petroleum Co., under the personal supervision of A. J. (Art) Delaney, successfully completed No. 1 Wellington, flowing 1,270 bbls. of clean 29.4 gravity oil daily from 7,181 feet, the hole having been finished with 5¾-inch oil string carrying 842 feet of perforated.

The Congress Petroleum Co. brought in No. 1 Signal under a natural flow doing 2,048 bbls. of 28.5 gravity oil and 3,000,000 feet of wet gas daily from an even 7,000 feet. D. D. Dunlap, a recent entrant into the Long Beach Field, completed his No. 1 Signal in the upper zone, doing 365 bbls. daily from 4,721 feet, the hole having been finished with a 6⅝-inch liner carrying 258 feet of perforated. This well subsequently died a few days after completion and probably will be deepened to the lower zone if sustained production cannot be developed at its present depth. The Richfield Oil Co., which recently completed two substantial producers in the deep zone on the Bernstein lease, has started rig construction for a new well, No. 5, which is scheduled to be spudded in the coming week.

The Pan Cal Oil Co., which brought in No. 3 Signal, flowing 1,560 bbls. per day a few weeks ago, has just completed its second producer, No. 6, on this property, but no accurate gauge is available as to its initial. The Axis Oil Co.'s No. 3 Windemere was somewhat of a disappointment upon completion a few days ago, as it showed an initial of only 170 bbls. from 6,600 feet, the hole having been plugged back from 6,680 feet. George F. Getty had a little better luck with his No. 26 Carson, as this well showed an initial of 130 bbls. daily from 7,298 feet. The Shell Oil Co. has reached a depth of 9,030 feet in No. 11 Nesa, which is being carried down as a conclusive deep test for the Long Beach Field. A twistoff temporarily held up progress during the early part of the past week, but this mechanical trouble was corrected and drilling is going ahead again.

Dominguez

The Shell Oil Co. revealed the dormant possibilities of the Dominguez Field of Los Angeles Basin a few days ago when No. 39 Reyes, a new well, was brought in flowing 2,950 bbls. initially from 4,900 feet, the hole having been finished with a 7-inch liner carrying 724 feet of 80 mesh screen. This field, incidentally, is being held in reserve by the Union and Shell until conditions improve. These concerns control practically the entire productive acreage of Dominguez and have been content to sit back while other fields are being depleted.

A new well was also finished in the Rosecrans Field this week when the Union Oil Co. brought in No. 12 Rosecrans, flowing 530 bls. of unusually clean 36.6 gravity oil daily from 5,863 feet. Nos. 10 and 11 on the same property are scheduled for early completion along with No. 3-A Rosecrans of the Barnsdall. The Sunset Pacific Oil Co. should be in a position to increase its current production in this field soon, as No. 31 Marine was rotating ahead a few days ago at 5,050 feet.

The Standard Oil Co. successfully completed No. 60 on Los Angeles Investment Lease No. 1 at Inglewood in the past week, and this new well tanked 410 bbls. during the initial 24-hour test from 2,301 feet. The Marland's No. 20 Bixby, a new well in the Seal Beach Field of Los Angeles Basin, was somewhat of a disappointment upon completion, as it was good for only 160 bbls. of clean 26.1 gravity oil daily from 5,315 feet, the hole having been plugged back from 5,421 feet. Several additional wells are nearing completion in this field, and one or two of them should be tanking oil within the next 10 days.

Midway-Sunset

Recent developments in the Maricopa Flats section of the Midway-Sunset Field indicates the possibility that this area may become an important factor in field production during the next several months. Four new wells are nearing the pay in the immediate area surrounding acreage being developed by the Signal Oil & Gas Co. and the North American Consolidated, and additional work is getting under way. In the older section of the Midway-Sunset Field, the Cpyress Petroluem picked up some favorable indications at 5,191 feet in No. 1 Fairbanks, located in Section 22-32-23, and prepartions are being made for an early production test.

The General Petroleum increased its list of producers out in the west front area of the Kern River Field several days ago when No. 34 Young was put on the beam at 1,970 feet, from which depth it showed an initial of 255 bbls. daily. In the Mount Poso Field, where several new wells recently have been spudded in, the Petroleum Securities finished No. 16 Glide, doing 175 bbls. daily from 1,848 feet, and subsequently shut it in due to the inability to move oil out of them. At Belridge, the Ohio Oil Co. brought in No. 27, doing 20 bbls. per day from 710 feet. The Shell finished a good pumper in the Round Mountain Field this week when No. 1 Caldwell was completed on the beam, doing 360 bbls. of clean 16.2 gravity oil daily from 1,664 feet.

Santa Barbara

The recently discovered Santa Barbara Field has proven a distinct disappointment, and unless all signs fail, drilling operations in this area will prove a costly experiment. Work on all but about 10 drilling projects has been suspended due to the unfavorable outlook, and several holes have already been abandoned. The Union has just abandoned No. 1 Durer, located about 750 feet east of the discovery, and may follow a similar procedure with No. 2 Carpenter Community, situated about 200 feet north of the discovery, due to the inability to get commercial production. No. 1 Carpenter is heading at the rate of about 250 bbls. per day, but does not seem to have sufficient kick to result in a sustained flow. No. 1 Durer definitely defines the eastern extremity of production, while No. 2 Carpenter limits production to the north. No. 1 Nugent, of the Ring Petroleum, defined the southern edge several weeks ago when it failed to get even a small showing.

The Santa Barbara Field looks just about as sick as the Lawndale district of Los Angeles Basin, where operators are still charging off heavy losses due to the failure of the oil sand to extend out into the town lot area where considerable drilling was started subsequent to completion of the discovery well. Five uncompleted drilling projects were abandoned at Lawndale this week, and another group will be plugged up in the near future. The latest abandonments in this field were the Ethyl Oil Co.'s No. 1 O'Gorman, a duster at 5,851 feet; No. 5 Harvey Smith of the Pacific Western Oil Co., carried down to 6,358 feet; the Sovereign Oil Co.'s No. 1 Hawthorne, which was a dry hole at 6,943 feet; No. 1 Vance of the Standard Oil Co., which failed to get production at 7,611 feet, and Boyd Hammond's No. 1 Bundy, which was likewise dry at 5,605 feet.

LA.-ARK. WILDCATS

(Continued from Page 71)

sections directly south. W. F. Hyde has derrick up for the first test on his block of 17,500 acres in West Carroll Parish, location being on the Chickasaw Implement Co.'s land in Section 24-33-11. The well is to go 3,300 feet.

ARKANSAS

Three new blocks in South Arkansas wildcat territory came to light during the week. McDonald and Shaw, of Ashdown, have 5,500 acres centering on Section 11-13-28, Little River County, on which they are financing a 2,500-foot well they figure on starting by August 1. Location probably will be in Section 11. Palmer Corp. has 10,000 acres in Miller County, Arkansas, and Bowie County, Texas, centering on Section 30-14-28, 6 miles north of Texarkana. Numerous water wells in that locality have showed up with a scum of oil and Palmer Corp. is understood to be planning a series of shallow tests on the block. It is also working in the vicinity of Annona, close to the Oklahoma line in Red River County, Texas.

In Union County, Shaffer Oil & Refining Co. is blocking for a 3,500-foot test to start in 60 days. Location has not been made but the company is building its block 2 miles east of production in the El Dorado south field. Gummer-Johnson Oil Co.'s No. 1 Cargile in Section 4-18-13, Urbana district, cored a salt water sand at 3,180 feet. Phillips Petroleum Co. and others' No. 1 Eagle Mills, Section 11-12-16, Ouachita County, drilling at 2,850 feet, is low. It topped the red beds at 2,410 feet.

MISSISSIPPI

Amerada Petroleum Corp. which has had geophysical crews in central west Mississippi and across the river in Louisiana for the past several weeks, is blocking in Yazoo County, Mississippi, on a "high" located and checked by geophone and seismograph, the top of which is about three-quarters of a mile northwest of Yazoo City. Approximately 20,000 acres was assembled on 5 and 10-year commercial leases, no drilling obligations, and 10,000 or 15,000 more will be added. Baker & Atkins, in whose Lauderdale County block Gulf Refining Co. has about 2,000 acres, began drilling No. 1 Lackey in Section 2-7-16, and are down 650 feet with 12½-inch cemented at 108 feet.

Lion Oil Refining Co. has taken 2,170 acres in Hinds County just southeast of Jackson and has located for 3,500-foot well in the C NW NW, Section 13-5-1e. The Home Oil Co., an organization of landowners, has contributed 7,500 acres in Hinds County on which Love Brothers plan to drill two wells, one of which is to be a deep test provided the gas rock checks satisfactorily high. No. 2 Carter of the Amory Natural Gas Co. in Section 7-17-13, Monroe County, offsetting the "discovery" gas well staged a blowout while drilling at 2,952 feet and bridged. It had sand from 2,410-25 feet that showed a little gas but bailed dry. As nothing has been found below this level showing the slightest suspicion of gas opinion is that the gas that caused the blowout and bridge came from this sand. Closed in, the well rocked up about 600 pounds pressure.

ALABAMA

Robinson & Greer have made location for their second well on the Hatchetigbee anticline in Choctaw County, Alabama, and are moving in to drill No. 1 Douglas

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The House of Courteous Service

Oil Co., 320 feet north of C Section 15-9-2w. R. W. Williams is building a block in Township 14-12, Winston County, north of Noxapater.

WILDCAT OPERATIONS IN LOUISIANA-ARKANSAS

NORTH LOUISIANA

BIENVILLE PARISH

Company, farm and location— Remarks:

W. G. Gray's No. 1 Snyder, SW NE, Sec. 15-17-6.....Tested S.W. at 2,842 ft. and 2,889 ft; S.D. 2,924 ft.

BOSSIER PARISH

Corbett and others' No. 1 Murff, SE cor. NE Sec. 18-17-11 .....Shut down 990 ft.

Nell & Lanier's No. 1 Biedenharn, SE cor. Sec. 23-21-14 .....Shut down 790 ft.

Triangle Drlg. Co.'s No. 1 Thigpen & Herold, 1,320 ft. W, 660 ft. N, SE cor., Sec. 11-17-12 .....Drlg. 830 ft.

Walker and others' No. 1 Antrim, NW cor. SE Sec. 28-22-13 .....Drilled 4 ft. deeper; bailed dry; T.D. 3,021 ft; S.D.

Woodmansee and others' No. 1 Bollinger, SE cor. NE Sec. 9-22-11 .....Shut down waiting orders 3,532 ft.

CADDO PARISH

D. C. R. Oil Co.'s No. 1 Oden, NE cor. NW Sec. 20-19-14 .Standing 700 ft. in oil, waiting on standard rig; T.D. 2,423 ft.

Lide and others' No. 1 Oden, SE cor. Sec. 21-19-14 .....Cored shale 2,400-10 ft; coring at 2,415 ft.

Fred McWilliams' No. 1 Oden, 1,650 ft. S, 330 ft. W, NE cor., Sec. 20-19-14 .....Location.

Humble Oil & Refining Co. and R. W. Norton's No. 1 Fortner, Sec. 32-21-16 .....Drlg. sandy lime 4,875 ft.

Fred McWilliams' No. 1 Oden, 1,650 ft. S, 330 ft. W, NE cor., Sec. 20-19-14 .....Rig up.

S. T. Onyett, trustee's No. 1 Dixon, SW cor. Sec. 10-19-14.Spudded July 12; cmtd. 10-in. 138 ft; drlg. 500 ft.

I. N. Pharisa, trustee's No. 1 Oden, NE cor. SE NE Sec. 19-19-14 .....Rig up.

Simplex Oil Co.'s No. 1 Dickson, 660 ft. N. and E. C. Sec. 33-20-14 .....Cored sandy shale 2,459-68 ft; arranging to cmt. 6⅝-in.

A. H. Tarver's No. 1 Glassell & Dickson, 300 ft. N, 300 ft. E, SW cor., Sec. 31-20-14 .....Rig up.

Woodley Pet. Co.'s No. 4-A Knight, 22,991 ft. E and 1,272 ft. N, SW cor., Sec. 35-16-12..... Spudded July 10; drlg. 700 ft.

Woodley Pet. Co.'s No. 1-B Knight, Sec. 11-15-12 .....Arranging to deepen; total depth 1,936 ft.

CATAHOULA PARISH

Lochnager Petroleum Co.'s No. 1 Taliaferro, 572 ft. E 396 ft. S C Sec. 26-9-6 .....Shut down 900 ft.

CLAIBORNE PARISH

O. G. Collins et als' No. 1 Mosley, 330 ft. S, 330 ft. E, NW cor., Sec. 29-20-5 .....Location.

El Dorado Chief Oil Co.'s No. 1 Baker, SE cor. SE SW Sec. 25-20-7 .....Shut down 3,404 ft.

Southern Crude Oil Purchasing Co.'s No. 1 Christian, NE cor. NW SW Sec. 22-23-6 .....Top Nacatoch 2,050 ft; drlg. sandy shale 2,169 ft.

DESOTO PARISH

P. J. Becker, trustee's No. 1 Tull, SW cor. NE NE Sec. 32-12-15 .....Shut down 1,805 ft.

Benedum & Trees Oil Co.'s No. 2 State, 1,700 ft. S and 1,350 ft. W NE cor. Sec. 32-14-12 .....Drlg. lime 3,175 ft.

Lide & Ford's No. 1 Nabors, SW cor. SE SW Sec. 32-12-11 .....Plugged back to 1,100 ft; reset 6-in. and packer; bailing to test 925 ft; T.D. 1,250 ft.

Longstreet Syndicate's No. 1 Ramsey, NE cor. SW NE Sec. 23-13-16 .....Changing to heavy rig and arranging to sidetrack; T.D. 2,802 ft.

Fair et als' No. 1 Hamilton, 500 ft. N, 300 ft. W, SE cor. SE SE, Sec. 1-12-13 .....Spudded July 14; cmtd. 10-in. at 100 ft.

Magnolia Petroleum Co.'s No. 1 Anna Mason, 990 ft. S and 330 ft. E NW cor. SW Sec. 27-12-11 ..... .Location.

Magnolia Petroleum Co.'s No. 2 W. H. Mason, 330 ft. N and W C, Sec. 28-12-11.....Drlg. gumbo 1,890 ft.

R. O. Roy's No. 1 Rogers, Sec. 13-13-14 .....Drlg. 1,800 ft.

FRANKLIN PARISH

Davis and others' No. 1 Moore, 600 ft. W and 200 ft. S NE cor. Sec. 12-11-6 .....Shut down 1,430 ft.

JACKSON PARISH

George O. Baird's No. 1 Tremont, SE cor. NW SE Sec. 24-16-1w .....Drill stem test 8 ft. sand 3,045 ft.; S.W. and small gas show; drlg. sandy shale 3,095 ft.

LASALLE PARISH

Tunica Petroleum Co.'s No. 47 L. & A., SE cor. Sec. 17-7-2e .....Arranging to pump; 7 ft. sand: T.D. 818 ft.

Tunica Pet. Co.'s No. 48 L. & A., 100 ft. N, 100 ft. E, SW cor. NW, Sec. 16-7-2e .....Spudded July 13; cmtd. 10-in. at 40 ft; drlg. 700 ft.

LINCOLN PARISH

V. E. Shaw et als' No. 1 Voss, SE cor., Sec. 1-20-3.....S.D.; T.D. 3,740 ft.

MOREHOUSE PARISH

J. P. White's No. 1 Chess-Wymond, Sec. 32-19-6 .....Old well drlg. deeper; drlg. red shale 2,603 ft.

Rainbow Oil Co.'s No. 1 Louisville Cooperage Co., 990 ft. S and E NW cor. NE Sec. 33-22-8 .....Derrick.

J. P. White's No. 1 Chess-Wymond, Section 32-19-6.....Old well abd. as dry hole; arranging to deepen; T.D. 2,570 ft.

NATCHITOCHES PARISH

S. D. McDaniel's No. 2 Clark & Morse, 800 ft. E and 350 ft. N C Sec. 23-5-6 .....Tested 1,000,000 ft. gas and salt water 8 ft.; shut down for orders, total depth 2,536 ft.

Robeline Oil & Gas Co.'s No. 1, NE SW Sec. 7-8-9 ....Drill stem stuck waiting orders; claim show of gas, total depth 3,230 ft.

OUACHITA PARISH

Ouachita Natural Gas Co.'s No. 2-B D'Arbonne, SE cor. Sec. 25-19-3e .....Shut down 3,349 ft.; well under water.

Parish & Russell's No. 1 School fee, NE Sec. 16-16-4 ..Drlg. hard lime 4,060 ft.

RED RIVER PARISH

Benedum & Trees Oil Co.'s No. 1 FranklinRealty Co., 350 ft. E. 350 ft. S, NW cor., Sec. 29-11-9 ..... Spudded July 16; drlg.

Eylers Oil Co.'s No. 1 Chaffraix, NE cor. NE SW Sec. 30-12-10 .....Cmtng. 6-in; T.D. 2,515 ft.

D. H. Riddick's No. 1 Johnson, 500 ft. N, 500 ft. W, SE cor., Sec. 17-12-10 .....Location.

RICHLAND PARISH

Austin & McDonald's No. 1 Millsaps, 660 ft. N and 1,980 ft. E SW cor. NW Sec. 17-17-6 .....Tested 200,000 ft. gas; waiting orders; T.D. 2,510 ft.

Austin & McDonald's No. 2 Millsaps, SW cor. Sec. 17-17-6 .....Waiting orders; T.D. 2,697 ft.

Austin & McDonald's No. 3 Millsaps, 1,980 ft. S and 660 ft. E NW cor. Sec. 16-17-6 .....Location.

Austin & McDonald's No. 4 Millsaps, NW cor. Sec. 16-17-6 .....Location.

Palmer Corp.'s No. 1 Miles, 1,320 ft. S and 680 ft. E NW cor. NE Sec. 11-17-6 .....Fish. for drill stem; T.D. 2,723 ft.

SABINE PARISH

R. L. Gay, trustee's No. 4 Bowman-Hicks, SE cor. NW SE, Sec. 14-7-14 .....Spudded July 15; drlg. 100 ft.

R. L. Gay, trustee's No. 1 Long-Bell Lbr. Co., NE cor. NW NW Sec. 26-8-14 .....Drlg. 2,105 ft.

R. L. Gay, trustee's No. 2 Sabine Lumber Co., Sec. 23-7-14 .....Bailing to test; T.D. 2,234 ft.

A. H. Tarver's No. 1 Long-Bell Lumber Co., NW cor. SW NW Sec. 29-8-13 .....Small show gas and mud; waiting orders; T.D. 3,535 ft.

UNION PARISH

J. E. Cammattee and others' No. 2 Tugwell, NE cor. NE NW Sec. 21-22-1e .....S.D. 2,250 ft.

H. C. McDonald's No. 2 U. S., NW cor. SW NE Sec. 18-23-1e .....Shut down 1,500 ft.

Sundby and others' No. 1 Security Trust, SE cor. Sec. 6-23-1e .....Shut down waiting orders; total depth 2,300 ft.

WEST CARROLL PARISH

W. F. Hyde, trustee's No. 1 Chickasaw Imp. Co., NE cor. NE, Sec. 24-23-11 .....Derrick.

ARKANSAS

CALHOUN COUNTY

Phillips Pet. Co.'s No. 1 Freeman-Smith Lumber Co., 300 ft. S, 300 ft. W, NE cor. SW NW, Sec. 25-16-13 .....Derrick.

Ohio Oil Co.'s No. 1 Stout Lumber Co., NW cor. SW Sec. 31-14-12 .....Drlg. gumbo 2,046 ft.

CLARK COUNTY

Wm. Henry, trustee's No. 1 Clark, Sec. 34-9-21 .....Shut down 1,200 ft.

COLUMBIA COUNTY

Arpeco Syndicate's No. 1 Dennis, Sec. 11-20-23 .....Drlg. red shale 3,410 ft.

T. R. Brown, trustee's No. 1 Spencer, Sec. 18-18-22 ....Cmtd. 10-in. 380 ft; drlg. 410 ft.

Helena Oil & Gas Co.'s No. 1 Pickler, Sec. 19-19-22 ....Shut down 2,762 ft.

FAULKNER COUNTY

Gold Creek Oil & Gas Co.'s No. 1 Stermer, Sec. 17-4-13..Cemented 6-in. 3,800 ft.

GRANT COUNTY

Jones & Watkins' No. 1 Meek, Sec. 5-4-11 .....Shut down 1,400 ft.

LINCOLN COUNTY

Pine Prairie Oil & Gas Co.'s No. 1 Carter .....Shut down 2,176 ft.

LITTLE RIVER COUNTY

Grotte and others' No. 1 Allen, Sec. 31-12-31 .....Shut down 2,941 ft.

LOGAN COUNTY

Arkansas Natural Gas Corp.'s No. 1 Hanna, Sec. 26-7-23 .....C.O. under 8¼-in. csg; T.D. 3,030 ft.

MADISON COUNTY

Independent Oil & Gas Co.'s No. 1 Banks & Teague, Sec. 6-16-27 .....Granite 2,500 ft; plugged back to 600 ft.; to test gas sand.

OUACHITA COUNTY

Copenhaven and others' No. 1 Warnick, Sec. 2-15-17 ....Derrick.

Flaucher and others' No. 1 Buck, Sec. 7-15-17 .....Shut down 2,465 ft.

Lohman and others' No. 1 Fogle, Sec. 18-14-16 .....Shut down 1,540 ft.

Phillips Petroleum Co. and others' No. 1 Eagle Mills, Sec. 11-12-16 .....Top red beds 2,410 ft; drlg red shale 2,756 ft.

Sundby and others' No. 1 Farris, SW cor. NW SE Sec. 27-15-15 .....Cmtd. 6⅝-in. 2,060 ft; T.D. 2,083 ft.

Timberlake and others' No. 1 Wright, Sec. 25-14-13 ..... Shut down waiting orders 2,907 ft.

Wesson and others' No. 1 Booth, Sec. 12-15-19 .....Shut down 2,203 ft.

UNION COUNTY

Sam Arrendale's No. 1 Gallagher & Nelson, 200 ft. N and W SE cor. Lot 5, Sec. 18-18-17 .....Drlg. 1,300 ft.

W. M. Coates, trustee's No. 1 McDuffie, Sec. 32-19-17 ..Coring 3,890 ft.

O. W. Estes' No. 1 Ramsey, NW cor. NW SW Sec. 24-17-14 .....Derrick.

E. L. Foster and others' No. 1 Murphy Land Co., Sec. 22-17-17 .....Shut down 1,400 ft.

Johnson-Gummer Co.'s No. 1 Cargile, Sec. 4-18-13 .....Cored S.W. sand 3,180 ft.

Ohio Oil Co.'s No. 1, Acct. 2, Stout Lbr. Co., 330 ft. S, 330 ft. W. NE cor. NE NW, Sec. 30-16-13 .....Rig up.

Root Refineries, Inc.'s No. 1 Oliver, NW cor. SE NW, Sec. 18-17-13 .....Drlg. 2,616 ft.

McDonald Brothers' No. 1 Mayfield, Sec. 29-19-15 .....Shut down 2,210 ft.

Ohio Oil Co.'s No. 1 Stout Lbr. Co. Acct. 2, 330 ft. S, 330 ft. W, NE cor. NW, Sec. 30-16-13 .....Derrick.

Stark and others' No. 1 Ainsworth, NE cor. NW NE Sec. 8-19-16 .....Derrick.

T. J. Woodley's No. 1 First National Bank, NW cor. Sec. 34-19-18 .....Derrick.

WASHINGTON COUNTY

C. H. Willoughby's No. 1 Jones, Sec. 34-16-30 .....Cemented 6-in. 1,320 ft.; shut down 1,342 ft.

Lincoln Leaseholding Syndicate's No. 1 Lincoln, Sec. 30-15-32 .....Drlg. 500 ft.

WHITE COUNTY

Letona Syndicate's No. 1 Letona, SE cor. NW SW Sec. 35-9-8 .....Cemented 6⅝-in. 2,975 ft.

EAST TEXAS

BOWIE COUNTY

Hooks Oil & Gas Co.'s No. 1 Lee Roseberry, L. T. King Sur. .....Temp. abandoned, total depth 3,086 ft.

CAMP COUNTY

Rogers and others' No. 1 Enfelt, R. M. Montgomery Sur. .....Tested dry at 1,870 ft.; shut down 1,920 ft.

RED RIVER COUNTY

D. M. Buffington's No. 1 Hossier, E. Hughhart Sur. ..Claim show of oil and gas; shut down 1,893 ft.

Shad Harper's No. 1 W. R. Garland, J. Wagley Sur. ....Shut down 1,862 ft.

Johnson Petroleum Co.'s No. 2 Randolph Edward Dean Sur. .....Shut down 1,440 ft.

SHELBY COUNTY

Chapperall Oil Co.'s No. 2 Holt, Matthew Moore Sur. ..Shut down for orders 3,004 ft.

Gulf Refining Co.'s No. 1 Carraway, J. H. Patterson Sur. .....Drlg hard lime and streaks blue shale 5,188 ft.

MISSISSIPPI

ALCORN COUNTY

Alcorn Petroleum Co.'s No. 1 Matthews, SE cor., Sec. 14-2s-7e .....Shut down 1,982 ft.

CHICKASAW COUNTY

Hightower & Golson's No. 1 Flemming, NE cor. Sec. 20-13-3 .....Shut down 1,100 ft.

CLAIBORNE COUNTY

Ben W. White's No. 1 Shannon, NE cor. Sec. 36-10-4 .....Fish. for drill stem; T.D. 2,004 ft.

HINDS COUNTY

Big Black Oil Co.'s No. 1 Southern Christian Institute, NW cor. Sec. 30-6-4 .....Derrick pattern.

Edwards Oil Co.'s No. 4 Lewis, SE cor. SW Sec. 36-16-5 .....Derrick pattern.

Harry Gerson's No. 1 Edward House, Blk. 16, West Jackson Subdivision City of Jackson in Twp. 5n, Range 1e .....Derrick.

Oscar Brown's No. 1 Riverside (formerly Hennessee and others), SE cor. SE SW Sec. 23-16-5 ..... Set 12½-in. 80 ft.; shut down 1,050 ft.

Mrs. Reeder and others' No. 1 State, SE cor. NW NW Sec. 25-6-1e .....Shut down 2,895 ft.

HUMPHREYS COUNTY

E. C. Steele and others' No. 1 C. B. Box, SE cor. SE NE, Sec. 25-14-4w .....Set 12½-in. 60 ft.; shut down.

LAUDERDALE COUNTY

Lauderdale Oil & Gas Co.'s No. 1 Lackey, 990 ft. S and E NW cor. NE Sec. 23-8-18 .....Spudded July 4; cmtd. 12½-in. 105 ft; drlg. gumbo 630 ft.

Meridian Oil & Gas Co.'s No. 1 Hauser, Sec. 33-8-18 ....Coring 1,630 ft.

J. R. Smith Oil Co.'s No. 1 C. F. Craig, Sec. 2-6-14 .....Derrick.

MONROE COUNTY

Amory Development Co.'s No. 1 Bourland, Sec. 2-13-19 ..Drlg. hard red sand 2,582 ft.

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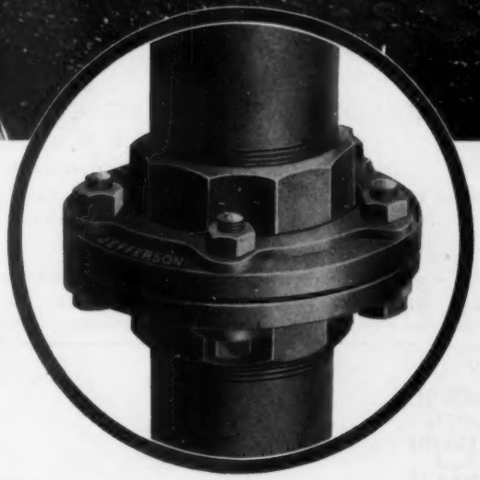
THE CHOICE OF MAJOR OPERATING CO.S



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Amory Petroleum Co.'s No. 1 Hall, Sec. 8-13-19 .....Waiting orders 3,040 ft.
Arkansas Natural Gas Corp.'s No. 1 Rye .....Drlg. hard sandy lime 3,444 ft.
Park Bowser and others' No. 1 Cowart, second hole, Sec. 2-12-19 .....Shut down 30 ft.

WARREN COUNTY

El Dorado Oil Co.'s No. 1 Dornbush, Sec. 8-18-5 .....Cored sand showing small amount gas 1,324-26 ft; ratholing 1,300 ft.

YALOBUSHA COUNTY

Philp Brothers' No. 1 James, Sec. 20-11-5 .....Shut down 2,408 ft.

TENNESSEE

DECATUR COUNTY

Standard Oil Co. of Louisiana's No. 1 Wyatt .....Drlg gray lime 1,243 ft; 200 ft. wtr. in hole from soft green strata at 1,212-15 ft.
Chester County Oil Co.'s No. 1 Montgomery .....Cemented 6-in. 1,040 ft.

GULF COAST FIELDS AND WILDCATS

(Continued from Page 72)

DE WALT—FORT BEND COUNTY

Humble Oil & Refg. Co.'s No. 8 Sugarland .....Set 158 ft. 4½-in. screen and tubing 3,700 ft.; flowing 375 bbls. oil.
Humble Oil & Refining Co.'s No. 3 Nelson .....Comp. flowing 700 bbls. oil 3,573 ft.
Humble Oil & Refg. Co.'s No. 5 Nelson .....Rigged up.
Humble Oil & Refg. Co.'s No. 5 Camp .....Rig.
Humble Oil & Refg. Co.'s No. 7 Brazos .....Drlg. gumbo 1,662 ft.
Humble Oil & Refg. Co.'s No. 8 Brazos .....Rig.
Humble Oil & Refining Co.'s No. 9 Brazos .....Rig.
Humble Oil & Refg.'s No. 1-B Deatherage .....Drlg. sandy shale 4,239 ft.
Humble Oil & Refg.'s No. 3 Hamner fee .....Location.
Humble Oil & Refining Co.'s No. 5 Hamner fee .....Drlg. shale and lime 3,229 ft.
Humble Oil & Refg. Co.'s No. 6 Hamner fee .....Location.
Humble Oil & Refg. Co.'s No. 7 Hamner fee .....Drlg. hard sand 909 ft.
Humble Oil & Refg. Co.'s No. 2-A Bankers Mortgage .....Location.
Humble Oil & Refg. Co.'s No. 2 Dew Bros. .....Drlg. hard sand 2,646 ft.

HUMBLE—HARRIS COUNTY

Humble Oil & Refg. Co.'s No. 1 Williams, south side deep test .....Tested salt water 4,888 ft.; abandoned.
Humble Oil & Refg. Co.'s No. 2 Williams, south .....Drlg. 1,472 ft.
Humble Oil & Refg. Co.'s No. 3 Williams .....Rig.
Humble Oil & Refg. Co.'s No. 1 Glass, south .....Drlg. 2,693 ft.
Marland Oil Co.'s No. 1 Ceseaux, south side .....Pulling screen to deepen 4,520 ft.
Harvey Smith et al's No. 1 Rosenthall, north side .....Drlg. gumbo and lime 3,395 ft.
Harvey Smith et al's No. 1 Bailey .....Abandoned 1,750 ft.
South Texas Petroleum Co.'s No. 7 Morris .....Drlg. gumbo and lime 3,428 ft.
So. Texas Petroleum Co.'s No. 8 Morris .....Drlg. gumbo and lime 3,011 ft.
So. Texas Petroleum Co.'s No. 9 Morris .....Drlg. gumbo 424 ft.
So. Texas Petroleum Co.'s No. 1 Lee, south flank .....Location.
So. Texas Pet. Co.'s No. 1 Burt, south side .....Tested salt water 5,833 ft.; pulling liner to deepen.
Sun Oil Co.'s No. 47 River, north side .....No report.
The Texas Company's No. 40 Stevenson .....Drlg. sticky shale 4,254 ft.
The Texas Company's No. 263 Landslide, south .....Set 4½-in. screen 4,985 ft.; bailing.
The Texas Company's No. 265 Landslide, south .....Drlg. gumbo 2,296 ft.
The Texas Company's No. 21 Wheeler & Pickens, south..Temporarily abandoned 4,298 ft.
The Texas Company's No. 266 Landslide .....Derrick.
The Texas Company's No. 29 C.O.&G. .....Drlg. gumbo 1,858 ft.
The Texas Company's No. 35 Koehler .....Drlg. hard sand 2,296 ft.

BLUE RIDGE—FORT BEND COUNTY

J. S. Abercrombie's No. 9 West-Schenk, old well.....Drlg. 3,856 ft.
Gulf Production Co.'s No. 15 Luscher, east side .....Comp. flowing 1,000 bbls. 4,003 ft.
Gulf Production Co.'s No. 7 Invincible (old well) .....Milling out 3,713 ft.
Gulf Production Co.'s No. 16 Luscher .....Location.
Moody Corp.'s No. 8 West-Schenck .....Drlg. gumbo 4,459 ft.
Navarro Oil Co.'s No. 1-C Robinson, northwest .....To sidetrack 4,117 ft.
Sinclair Oil & Gas Co.'s No. 3 Blakely (workover) .....To deepen 4,321 ft.
South Texas Petroleum Co.'s No. 1 Lee (workover) .....Drlg. 4,446 ft.

PIERCE JUNCTION—HARRIS COUNTY

Abercrombie & Harrison's No. 1 Ritter .....Drlg. 2,978 ft.; total depth 5,558 ft.
Anderson & Plummer's No. 5 Whitehead, old well.....Cleaning hole to deepen 4,959 ft.
Gulf Production Co.'s No. 29 Taylor (work-over) .....Spraying 10 bbls. oil 4,486 ft.
Gulf Production Co.'s No. 30 Taylor, east .....Shale showing oil 4,634 ft.; reaming to set.
Moody Corp.'s No. 2 Calvert, northeast .....Drlg. sand rock 3,575 ft.
Moody Corp.'s No. 5-B Settegast .....Drlg. sticky shale 4,549 ft.
Navarro Oil Co.-Humble Oil & Refg. Co.'s No. 4 Dooley, east .....Drlg. hard shale and lime rock 3,733 ft.
Navarro Oil Co.-Texas Exploration Co.'s No. 16 Dooley, east side .....Drlg. hard sand 4,360 ft.
Navarro Oil Co.'s No. 4-B Cain .....Drlg. hard sand 3,655 ft.
Pure Oil Co.'s No. 1 Herman estate, southwest .....Set screen to test oil sand 5,056 ft.
Rio Bravo Oil Co.'s No. 11 B. Settegast .....Rig.
Rio Bravo Oil Co.'s No. 8-A Settegast (old well) .....Swabbing 4,500 ft.
Rio Bravo Oil Co.'s No. 14-A Settegast, west .....Drlg. gumbo and shale 4,748 ft.
Saxet Gas Co.'s No. 2 Herman estate, southwest .....Temporarily abandoned 5,000 ft.
Saxet Gas Co.'s No. 3 Herman estate, southwest .....Set screen 4,313 ft.; failed to flow.
J. F. Barron's No. 3 Fitzsimmons .....Derrick.
Shaw & Texas Exploration Co.'s No. 2-F Fitzsimmons...Derrick.
T. G. Shaw's No. 1 Dooley .....Drlg. broken lime 4,510 ft.

LIBERTY—LIBERTY COUNTY

Empire Gas & Fuel Co.'s No. 3 Goggan .....Rigged.
Painter Oil Co.'s No. 2 Turner .....Rig.
Navarro Oil Co.'s No. 5 Baldwin Community .....Location.
Pierce & Rogers' No. 1 Pickett .....Cavity 406 ft.
Sun Oil Co.'s No. 45 Mitchell .....Cemented 7-in. casing 3,180 ft. to test oil sand 3,336 ft.
Sun Oil Co.'s No. 46 Mitchell .....Drlg. hard sand 1,723 ft.
The Texas Company's No. 3 Pickett .....Reaming; bottom in shale 5,174 ft.
Vacuum Oil Co.'s No. 11 Barrett .....Pulling screen to deepen 2,817 ft.

HULL—LIBERTY COUNTY

Daisetta Oil Co.'s No. 1 Wilson .....To pump 2,043 ft.
Empire Gas and Tidal Co.'s No. 27 Barretover, old well..Rigging up to deepen, 3,140 ft.
Gulf Production Co.'s No. 39 Phoenix, old well .....Rig up to work over.
Gulf Production Co.'s No. 92 Phoenix .....Comp. flowing 600 bbls. 2,958 ft.
Humble Oil & Refg. Co.'s No. 11 Hooks-Spell .....Rig.
Sun Oil Co.'s No. 10 Carr .....Shut down 467 ft.
Republic Production Co.'s No. 68 Dolbear (old well) ...Drlg. 2,169 ft.
Republic Production Co.'s No. 107 Dolbear (old well) ...Rig up to work over.
Republic Production Co.'s No. 114 Dolbear, old well.....Drlg. 489 ft.
Republic Production Co.'s No. 1 Taylor .....Abandoned.
The Texas Company's No. 1 Hannah-Vacuum .....Location.

BIG CREEK—FORT BEND COUNTY

Benedum & Trees' No. 2 Ahlers .....Drlg. 3,320 ft.
Gulf Production Co.'s No. 20 Davis, old well .....To work over.
Gulf Prod. Co.'s No. 37 Davis (old well) .....Tested salt water 3,779 ft.; abandoned.
Gulf Production Co.'s No. 54 Davis .....Drlg. hard sandy lime 3,635 ft.
The Texas Company's No. 2 Wheat (old well) .....Drilling sandy shale 3,181 ft.
Navarro Oil Co.'s No. 3 Haussler (former gas well).....Rigging up to pump 2,566 ft.
Navarro Oil Co.'s No. 4 Davis .....Location.

NASH—BRAZORIA COUNTY

Rycade Oil Corp.'s No. 26 Wisdom .....Water sand 4,414 ft.; reaming.

BATSON—HARDIN COUNTY

Ada Belle Oil Co.'s No. 128 Paraffine .....Drlg. 1,080 ft.
Capitol Oil Co.'s No. 11 Hodges .....Shut down 3,190 ft.
Gulf Production Co.'s No. 18 Knight fee (old well) ....Tested salt water; abandoned 1,127 ft.
Gulf Production Co.'s No. 172 Wing .....Location.

Paraffine Oil Co.'s No. 46 Paraffine ..... Standing 1,248 ft.
Paraffine Oil Co.'s No. 80 Paraffine ..... Drlg. 1,078 ft.

SOUR LAKE—HARDIN COUNTY

Humble Oil & Refg. Co.'s No. 6 Bashara, old well ..... Rig up to deepen.
Lake View Oil Co.'s No. 61 Hardin ..... Drlg. 1,066 ft.
Humble Oil & Refg. Co.'s No. 2-C Jackson (old well) .... Comp. pumping 50 bbls. net oil 2,117 ft.

SARATOGA—HARDIN COUNTY

Rio Bravo Oil Co.'s No. 37-C ..... Waiting cement to set 932 ft.; oil showing.
Rio Bravo Oil Co.'s No. 78-C ..... Location.
E. W. Skinner's No. 15 Kirby ..... Drlg. 1,257 ft.
Weldon Oil Co.'s No. 19 Hooks ..... Comp. pumping 90 bbls. fluid, 60 per cent oil, 1,586 ft.

ORANGE—ORANGE COUNTY

Orange Pet. Co.'s No. 3 Berwick (old well) ..... Comp. pumping 25 bbls. net oil 3,293 ft.
Rex Petroleum Co.'s No. 2-B Carbello (old well) ..... Comp. pumping 15 bbls. fluid, 5 per cent oil, 3,356 ft.
Supreme Oil Co.'s No. 3 Jackson (old well) ..... Comp. pumping 30 bbl. net oil 3,431 ft.
Tillery Oil Co.'s No. 2 State (workover) ..... Preparing to work over.

GOOSE CREEK—HARRIS COUNTY

Humble Oil & Ref. Co.'s No. 75 Simms-Smith ..... Drlg. sticky shale 5,233 ft.
C. T. Rucker's No. 1 Jones ..... Shut down 832 ft.
Russell Farrell's No. 5 Gillette (old well) ..... Pumping 75 bbls. 2,565 ft.
Lake Shore Oil Co.'s No. 4 Duke ..... Derrick.
Lee & Scott's No. 1 Scott ..... To test 1,212 ft.; oil showing.
W. C. Turnbow's No. 6 Scorrega (old well) ..... Comp. pumping 75 bbls. net oil 2,249 ft.

SPINDLETOP—JEFFERSON COUNTY

Gulf Production Co.'s No. 6 Oakwood, old well ..... Pulling liner to deepen.
Sun Oil Co.'s No. 11 McLean (workover) ..... Drilling.
Yount Lee Oil Co.'s No. 14 McFaddin (workover) ..... Drlg. sand and lime 5,049 ft.
Yount Lee Oil Co.'s No. 54 McFaddin (old well) ..... Drlg. sand 3,412 ft.
Yount Lee Oil Co.'s No. 89 McFaddin (old well) ..... Standing.
Yount Lee Oil Co.'s No. 107 McFaddin ..... Drlg. shale and lime 4,223 ft.
Yount Lee Oil Co.'s No. 108 McFaddin ..... Drlg. shale and lime 2,886 ft.
Yount Lee Oil Co.'s 109 McFaddin ..... Drlg. shale and lime 2,807 ft.
Yount Lee Oil Co.'s No. 36 Gladys City (workover) ..... Tested salt water 6,358 ft.; sidetracking 3,167 ft.
Yount Lee Oil Co.'s No. 43 Gladys City (workover) ..... Drlg. sand 5,272 ft.
Yount Lee Oil Co.'s No. 68 Gladys City (workover) ..... Drlg. sand 2,851 ft.
Yount Lee Oil Co.'s No. 94 Gladys City ..... Drlg. sand 3,947 ft.

WEST COLUMBIA—BRAZORIA COUNTY

Humble Oil & Refg. Co.'s No. 3 Smith ..... Drlg. gumbo 783 ft.
Saxet Oil Co.'s No. 1 Hogg ..... Location.
Saxet Oil Co.'s No. 1 Masterson ..... Location.
The Texas Company's No. 24 Arnold ..... Drlg. rock 328 ft.

HIGH ISLAND—GALVESTON COUNTY

Gulf Production Co.'s No. 9 Smith ..... Comp. flowing 1,800 bbls. ½-inch choke 3,089 ft.
Marrs McLean's No. 11 Cade (old well) ..... Testing oil sand 3,774 ft.
Marrs McLean's No. 15 Cade ..... Pulling strainer to deepen 3,741 ft.

DAMON MOUND—BRAZORIA COUNTY

Cullen & West's No. 1 Smith ..... Drlg. sticky shale 3,761 ft.
Sinclair Oil & Gas Co.'s No. 6 Norton ..... Heaving shale 4,168 ft.; standing.
Leonard Petroleum Co.'s No. 4 Wisdom ..... Drlg. hard lime 3,229 ft.

MARKHAM—MATAGORDA COUNTY

Rycade Oil Corp.-Humble Oil & Ref. Co.'s No. 6-A Kountze ..... Drlg. sticky shale 4,291 ft.

ORCHARD—FORT BEND COUNTY

Gulf Prod. Co.'s No. 19 Moore ..... Fishing drill pipe 4,954 ft.

NORTH DAYTON—LIBERTY COUNTY

Duho Oil Co.'s No. 7 Quintette ..... Location.
Fort Bend Oil Co.'s No. 1 Ballarack ..... Shut down 4,650 ft.
Harrison Oil Co.'s No. 4 Quintette ..... Drlg. gumbo 2,006 ft.
Sun Oil Co.'s No. 2 Kovelcik ..... Drlg. sand and shale 5,295 ft.

REFUGIO—REFUGIO COUNTY

George Ball's No. 1 Terrell, workover ..... No report.
Coast Drilling Co.'s No. 1 City ..... No report.
Houston Gulf Gas Co.'s No. 5 Ryals ..... Spudded
Houston Gulf Gas Co.'s No. 9 Lambert ..... Drlg. hard lime and shale 3,456 ft.
Houston Gulf Gas Co.'s No. 6 Shelly ..... Drlg. shale 4,502 ft.
Houston Gulf Gas Co.'s No. 3 Rose Lambert ..... Drlg. gumbo 1,810 ft.
Houston Gulf Gas Co.'s No. 3 Adkins ..... To test 3,879 ft.
Houston Gulf Gas Co.'s No. 2 Rooke ..... Cleaned hole 4,530 ft.; to deepen.
Houston Gulf Gas Co.'s No. 1 Buckley ..... Fishing drill pipe 3,129 ft.
Mission Drlg. Co.'s No. 1 Shelly ..... Comp. flowing 300 bbls. pipe line oil 3,647 ft.
Mission Drilling Co.'s No. 1 Shay ..... Drlg. shale 1,700 ft.
Mission Drlg. Co.'s No. 1 O'Brien ..... Testing sand 3,988 ft.
Mission Drlg. Co.'s No. 2 Powers ..... Drlg. gumbo 2,267 ft.
Mission Drlg. Co.'s No. 1 J. F. B. Heard ..... Blowing wild 4,630 ft.
Benedum & Trees' No. 4 Clint Heard ..... Putting on gas lift 3,695 ft.
Saxet Co.'s No. 5 Clint Heard ..... Fishing liner 5,044 ft.
Saxet Co.'s No. 3 Clint Heard ..... Blew in 1,250 lbs. pressure; sand 3,659-66 ft.; killing gas to deepen.
Saxet Oil Co.'s No. 1 Fox ..... Cemented surface casing 496 ft.
Houston Oil Co.'s No. 1 F. Rooke ..... Comp. flowing 100 bbls. oil 3,689-3,708 ft.
Houston Oil Co.'s No. 12 Rooke ..... Drlg. shale 1,902 ft.
Houston Oil Co.'s No. 6 Wilson Heard ..... Swabbed salt water 3,692 ft.; to sidetrack.
Houston Oil Co.'s No. 12 Fannie Heard ..... Comp. flowing 200 bbls. oil 3,656-62 ft.
Oigufer Oil Co.'s No. 2 Ryals ..... No report.
Blanco Creek Oil Co.'s No. 1 St. Johns ..... Fishing pipe.

SOUTH LOUISIANA FIELDS
LOCKPORT—CALCASIEU PARISH

Shell Petroleum Corp.'s No. 1 Miller ..... Cored blue sandy shale 6,594 ft.
Vacuum Oil Co.-Gulf Ref. Co.'s No. 9 Miller ..... Set 7-in. casing to test sandy shale 4,330 ft.
Vacuum & Gulf's No. 15 Miller ..... Bailing 4,370 ft.; showing salt water.
Vacuum & Gulf's No. 3 State ..... Failed to pump; to work over, 4,400 ft.
Vacuum Oil Co.'s No. 7 Bordages ..... Rig.
Vacuum Oil Co.'s No. 3-A fee ..... Rig.

HACKBERRY—CAMERON PARISH

Calcasieu Oil Co.'s No. 7 Dorion, East Hackberry ..... Location.
Calcasieu Oil Co.'s No. 2 Lemke, East Hackberry ..... Drlg. sand 2,469 ft.
Calcasieu Oil Co.'s No. 15 Watkins, East Hackberry .... Drlg. lime and shale 1,648 ft.
Cameron Oil Co.'s No. 5 Duhon, Old Hackberry ..... Drlg. sand and shale 890 ft.
Fraim Oil Co.'s No. 1 Duhon, Old Hackberry ..... Standing 4,384 ft.
Moon Oil Co.'s No. 4 Sanner, Old Hackberry ..... Drlg. gumbo 1,936 ft.
Rycade Oil Corp.-Humble Oil & Refg. Co.'s No. 3 Gulf Land, Old Hackberry ..... Losing returns 2,341 ft.
Sunshine Oil Co.'s No. 2 Ellender, Old Hackberry ..... Drlg. 2,241 ft.
The Texas Company's No. 5-B Calcasieu Lake, East Hackberry ..... Rig.

JENNINGS—ACADIA PARISH

Fred Getty's No. 3 Jennings-Clemont ..... Location.
Kathleen Oil Co.'s No. 1 Syndicate Fee ..... Derrick.
E. L. Meyers' No. 1 Clemont-Zigler (old well) ..... To work over 1,805 ft.
Ratcliff Oil Co.'s No. 2 McCrusel ..... Testing oil sand 1,551 ft.
Yount Lee Oil Co.'s No. 4 Crowley, northeast flank, Section 48-9s-2w ..... Waiting cement to set 7,546 ft.
Yount Lee Oil Co.'s No. 5 Crowley, Sec. 48-9s-2w ..... Location.
Yount Lee Oil Co.'s No. 7 Houssiene-Latrielle, Sec. 47-9s-2w ..... Drlg. gumbo 2,817 ft.

EDGERLY—CALCASIEU PARISH

C. M. Crotty's No. 15 Lillard ..... Drlg. 568 ft.
Rex Petroleum Co.'s No. 10 Hunter ..... Drlg. 4,008 ft.

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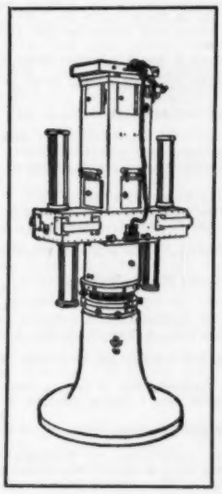

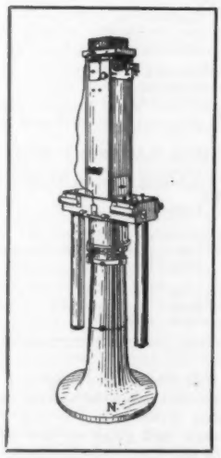

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VINTON—CALCASIEU PARISH

Marrs McLean's No. 4 Gray (work-over) ..... Tested dry 1,787 ft.; shut down.
Salt Dome Oil Co.'s No. 2 Shaw ..... Drlg. 2,791 ft.
Vinton Petroleum Co.'s No. 14 Gray (work-over) ..... Shut down 2,659 ft.
Vinton Petroleum Co.'s No. 9 Rescue (9 acres) ..... Drlg. 2,633 ft.

BAYOU BOUILLON—ST. MARTIN PARISH

Rycade Oil Corp.'s No. 7 Bouillon Fee ..... Reaming to set casing; total depth 3,941 ft.
Rycade Oil Corp.'s No. 3 State (former well) ..... Coring sandy shale 3,425 ft.

SORRENTO—ASCENSION PARISH

Gulf Refining Co.'s No. 15 United, Sec. 22-10S-4e ..... Drlg. sand 1,885 ft.

STARKS—CALCASIEU PARISH

Gulf Refining Co.'s No. 15 Lutcher-Moore ..... Drlg. heaving shale 5,112 ft.
Gulf Refining Co.'s No. 13 Industrial ..... Drlg. sticky shale 6,701 ft.

SULPHUR—CALCASIEU PARISH

Union Sulphur Co.'s No. 736 Fee ..... Fishing drill pipe 6,064 ft.
Union Sulphur Co.'s No. 746 Fee, Sec. 29-9s-10w ..... Drlg. 910 ft.
Union Sulphur Co.'s No. 747 Fee, Sec. 29-9s-10w ..... Waiting cement to set 2,764 ft.; oil sand 2,797 ft.
Union Sulphur Co.'s No. 748 fee, Section 29-9s-10w ..... Drlg. 3,702 ft.
Union Sulphur Co.'s No. 749 fee, Sec. 29-9s-10w ..... Drlg. 2,097 ft.

SWEET LAKE—CAMERON PARISH

Pure Oil Co.'s No. 7 Yount Lee ..... Drlg. sand 5,828 ft.
Pure Oil Co.'s No. 8 Yount Lee ..... Pulling screen to deepen.

ANSE LA BUTTE—ST. MARTIN PARISH

Yount Lee Oil Co.'s No. 5 Louisiana Pet. Co ..... Waiting cement to set 3,624 ft.; oil sand.

MISCELLANEOUS WILDCATS

TEXAS

AUSTIN COUNTY

Whittington et al's No. 1 Lass, 4 miles northwest of Bellville ..... No report.

BRAZORIA COUNTY

Thomas Faust et al's No. 4 fee ..... Drlg. sand and shale 1,353 ft.
Shell Petroleum Corp.'s No. 4 Allen, Allen dome ..... Abandoned 5,184 ft.
Empire Gas & Fuel Co.'s No. 3 Brock, Stratton Ridge .. Drlg. hard lime rock 4,768 ft.

CHAMBERS COUNTY

Chicago Oil Corp.'s No. 1 Lawrence ..... Gumbo 700 ft; set 12½-in. csg.
Layne et al's No. 1 Fitzgerald ..... Drlg. gumbo 2,364 ft.
Pure Oil Co.'s No. 2 Mayes, Lost Lake ..... Total depth 2,707 ft.; reaming.
Pure Oil Co.'s No. 3 Mayes, Lost Lake ..... Drlg. 8¼-in. plug at 2,066 ft. to test oil sand 2,152 ft.

FORT BEND COUNTY

Gulf Production Co.'s No. 12 Trone, Long Point ..... Drlg. gumbo and lime 2,448 ft.
Gulf Production Co.'s No. 16 Wolf, Long Point ..... Cemented 6-in. casing 575 ft.
Grayburg Oil Co.'s No. 1 Ranson ..... Drlg. gumbo and lime 953 ft.
Humble Oil & Refg. Co.'s No. 1 Miller, Rosenberg ..... Drlg. hard sand and shale 4,680 ft.

HARRIS COUNTY

Baldwin and associates' No. 1 Kitzman, Cypress ..... Drlg. plug at 3,915 ft. to test showing at 4,050 ft.
A. F. Belunek's No. 1 Thompson ..... Started drilling.
Humble Oil & Refg. Co.'s No. 2 Irvin ..... Drlg. sandy shale 3,606 ft.
Humble Oil & Refg. Co.'s No. 1 Woodburn, Genos ..... Drlg. pyrites and shale 3,842 ft.
Little York Oil Co.'s No. 1 Davis, Little York ..... Shale 4,018 ft.; shut down.
York & Robertson's No. 1 Garrett, Harris & Carpenter survey ..... Drlg. blue gumbo 1,527 ft.

JEFFERSON COUNTY

Bleakie Oil Co.'s No. 1 Tolliver, Dyches survey ..... Shut down 2,800 ft.
Deep Test Oil Corp.'s No. 1 Faith-McFadden ..... Shut down 3,706 ft.
Gulf Production Co.'s No. 3 Burrell Fannette ..... Rig.
Gulf Production Co.'s No. 7 Bordages, Fannette (work-over) ..... Drlg. sand showing gas, 5,889 ft.
Gulf Production Co.'s No. 11 Thomas, Fannette (work-over) ..... Drlg. sand 5,836 ft.
Nederland Oil & Dev. Co.'s No. 1 Young, Nederland ..... Shut down 2,520 ft.
River Oil Corp.'s No. 1 Ship Channel, Brown survey ..... Shut down; gumbo 1,721 ft.
Shell Petroleum Corp.'s No. 1 Heisig, Hampshire ..... Drlg. sandy shale and lime 6,021 ft.
The Texas Company's No. 2 Pipkin, Big Hill ..... Rigging up.
Vacuum Oil Co.'s No. 1 Herbert-Broussard, T. & N. O. survey No. 208 ..... Rigging up.
Westbury Oil Co.'s No. 1 West ..... Drlg. gumbo 2,000 ft.

LIBERTY COUNTY

Gulf Production Co.'s No. 2 Boyt Hankamer ..... Drlg. gumbo and lime 2,413 ft.
Humble Oil & Refg. Co.'s No. 5 Sterling, Moss Bluff .... Drlg. sandy shale 4,262 ft.
Harvey Smith and asociates' No. 1 Moore's Bluff, Brunson Sur. ..... Drlg. limy shale 1,740 ft.
Pure Oil Co.'s No. 1 Liberty, Moss Bluff ..... Drlg. hard sand 2,316 ft.
Republic Production Co.'s No. 1 Myslivec, Moore survey .. Drlg. water sand 4,857 ft.
Union Exploration Co.'s No. 3 Esperson, Sheeks ..... Location.

MATAGORDA COUNTY

Crossland and associates' No. 1 Hawkins, Shepherds Mott. Cemented 6⅝-in. casing 4,753 ft.; oil showing 4,850 ft.

MONTGOMERY COUNTY

Cullen and associates' No. 1 Chase, near Hufsmith ..... Drlg. gumbo 3,097 ft.
Kelley-Baker et al's No. 1 Juerges ..... Location.

ORANGE COUNTY

The Texas Company's No. 1 Polk, Port Neches ..... Building foundations.
The Texas Company's No. 1 Starks, Port Neches ..... Rig.
Veteran Oil Co.'s No. 1 Reed, A. Nelson survey ..... Shut down 4,500 ft.

WALLER COUNTY

Kirby Petroleum Co.'s No. 1 Vaughn, San Felipe ..... Drlg. sandy gumbo 2,569 ft.

WHARTON COUNTY

Harte et al's No. 1 Brown ..... Drlg. gumbo 2,743 ft.

SOUTH LOUISIANA

ASCENSION PARISH

Pickard & Geisman's No. 1 Desire Breaux, Darrow ..... Drlg. 3,441 ft.
Big Dome Dlg. & Dev. Co.'s No. 1 Reardom, Darrow .... Total depth 4,747 ft.; standing with casing collapsed.
Triumph Oil Corp.'s No. 2 Lacey, Sec. 29-10s-4e ..... Standing 2,697 ft.

CALCASIEU PARISH

Wilfred LaHay's No. 2 James, Section 14-10s-13w ..... Shut down 3,365 ft.
J. O. Davis' No. 1 Mims, Section 20-9s-7w ..... Standing 5,600 ft.

CAMERON PARISH

Shell Petroleum Corp.'s No. 11 Watkins, Black Bayou .. Swabbing wash water 834 ft.; total depth 984 ft.
Shell Pet. Corp.'s No. 12 Watkins, Black Bayou ..... Rig.
Shell Pet. Corp.'s No. 13 Watkins, Black Bayou ..... Location.
Shell Pet. Corp.'s No. 1 Marceaux, Mallard Bay, Section 32-12s-3w ..... Dredging canal.
The Texas Company's No. 4-A Calcasieu Lake, Calcasieu Lake Dome ..... Location.

EVANGELINE PARISH

The Texas Company's No. 1 Guillory, Pine Prairie ..... Drlg. 2,800 ft.

IBERIA PARISH

Jefferson Lake Oil Co.'s No. 2 Lake Peigneur, Jefferson Island ..... Building derrick.
The Texas Company's No. 4-A Vermillion Bay ..... Location.

IBERVILLE PARISH

Gulf Refg. Co.'s No. 10-Z State, Loreauville ..... Spudded.
Shell Petroleum Corp.'s No. 3 Wilbert, White Castle .... Tested salt water 5,626 ft.; pulling liner.
Standard Oil Co.'s No. 2 Wilbert, Bayou Blue ..... No report.
Standard Oil Co.'s No. 2 Schwing, Bayou Blue ..... No report.
Standard Oil Co.'s No. 3 Schwing, Bayou Blue ..... Location.
Standard Oil Co.'s No. 4 Schwing, Bayou Blue ..... Location.
Standard Oil Co.'s No. 5 Schwing, Bayou Blue ..... Derrick.

JEFFERSON DAVIS PARISH

Vacuum Oil Co.'s No. 2 DeVilbiss, Roanoke ..... Rigging up.

PLAQUEMINE PARISH

The Texas Company's No. 2 Garden Island Bay, Sec. 107-23s-32e ..... Rigging up.
Humble Oil & Refg. Co.'s No. 1 State, Sec. 2-20s-26e..... Rig.
Humble Oil & Refining Co.'s No. 1 Lake Washington, Township 20s-26e ..... Location.

ST. BERNARD PARISH

St. Bernard Oil & Gas Co.'s No. 1 fee, Sec. 15-14s-15e.... Shut down 726 ft.

ST. JAMES PARISH

Convent Oil Co.'s No. 2 Reynaud, Sec. 1-12s-4e ..... Location.

ST. LANDRY PARISH

Gulf Refining Co.'s No. 1 Gaudet, Point Barre ..... Salt 4,229 ft.; abandoned.
The Texas Company's No. 2 Botney Bay, Point Barre ... To deepen.

ST. MARTIN PARISH

Ohio Oil Co.'s No. 3 Martin, Hager dome ..... Standing 4,490 ft.
The Texas Company's No. 1 Fee, Hager Dome ..... Shut down; high water 1,233 ft.
The Texas Company's No. 2 St. Martin, Hager ..... Rig standing; high water.

ST. TAMMANY PARISH

St. Tammany Oil Co.'s No. 2 Fritchie, Sec. 35-8s-14e .... No report.

TANGIPAHOA PARISH

Completion Oil Co.'s No. 1 Amos ..... No report.
Joan Development Co.'s No. 1 Hilton, Sec. 20-9s-9e ..... No report.

TERREBONNE PARISH

Southern Gas Co.'s No. 1 Waterproof, Houma ..... Standing 2,101 ft.
The Texas Company's No. 1 L. L. & E., Four Isle Bayou .. Drlg. anhydrite 1,350 ft.
The Texas Company's No. 1-A Timballer Bay, Section 19-23s-20e ..... Drlg. hard shale 2,797 ft.
The Texas Company's No. 2-A Dog Lake Bayou, 400 ft. south of No. 1 ..... Location.
The Texas Company's No. 1-B Dog Lake, Sec. 6-22s-16e .. Location.
The Texas Company's No. 1-B Lake Pelto, Section 8-23s-18e ..... Set 2 joints screen 1,388 ft.; spraying 60 bbls. oil daily.
The Texas Company's No. 1 Taylor, East Bay Junop Dome ..... Rig.
The Texas Company's No. 2-A Lake Barre, Section 30-21s-20e ..... Rig.
The Texas Company's No. 2B Bay Coon Road, Sec. 17-22s-18e ..... Building derrick foundations.
The Texas Company's No. 3-B Bay Coon Road, Sec. 17-22s-18e ..... Location.

WILDCAT OPERATIONS IN SOUTHWEST TEXAS

(Continued from Page 75)

A. G. Kifer's No. 1 B. B. Dix ..... Standing 1,050 ft.
Mid-Kansas Oil & Gas Co.'s No. 1 Ramon Gonzales ..... Dropped from reports.
Miller Brothers' No. 1 Gib Springs ..... Tested 2,624 ft., tester and joint above came up covered with oil and dobe.
T. H. Poole's No. 1 C. Woehler, John King Survey ..... Drlg. 2,354 ft.
Sinclair Oil & Gas Co.'s No. 1 Ed Tewes ..... Drlg. 200 ft.
L. W. Stieren's No. 1 S. H. Herman, Ragsdale Survey .. Standing 1,233 ft.
The Texas Company's No. 1 Dallas Wilson, Sur. Darst ... Swbng. 52½ bbls. hourly 2,608 ft.
W. J. Walton's No. 1 G. Nolte ..... Set casing 1,690 ft.

JIM HOGG COUNTY

Deep Rock Oil Co.'s No. 1 Kelsey ..... Rigging up.

KARNES COUNTY

Hurador Oil Co.'s No. 1 W. E. Porter ..... Waiting on fuel oil 2,060 ft.
Scott Townsend and others' No. 1 Ruckman ..... Drlg. 2,100 ft.

KERR COUNTY

McMan Oil & Gas Co.'s No. 2 Walter Schreiner ..... Location.
L. R. Page and Associates' No. 1 Real ..... Drlg. 1,040 ft.

KIMBLE COUNTY

Carl L. Bryant's No. 1 C. E. Lambert ..... Ready to spud in.
H. A. McLean & Jamison's No. 1 R. F. Cannon ..... Oil showing, 600 ft.
J. B. Lindsay's No. 1 G. C. Anderson ..... Setting 15½-in. casing.

KINNEY COUNTY

Lloyd Oil Co.'s No. 1 G. B. Moore, Survey 117 ..... Waiting for pipe 1,600 ft.

LASALLE COUNTY

J. G. Nix's No. 1 Coleman, Survey 65 ..... Standardizing 500 ft.

MAVERICK COUNTY

Ryan Consolidated Petroleum Co.'s No. 2 Indio Ranch .... Drlg. 4,900 ft.
Rycade Oil Co.'s No. 3 Chittim ..... Drlg. 4,060 ft.
Rycade Oil Corp.'s No. 4 J. M. Chittim ..... Drlg. 3,200 ft.
Rycade Oil Co.'s No. 4 Sullivan ..... Drlg. 3,440 ft.
Rycade Oil Corp.'s No. 5 Chittim ..... Clearing land for rig.
The Texas Company, 5 miles west Darling Switch ..... Moving in material.

MEDINA COUNTY

Pat Armstrong's No. 1 C. W. Butts ..... Derrick.
California-Medina's No. 1 Rothe ..... Drlg. 3,426 ft.
Donaldson Oil Co.'s No. 2 Adams ..... Location.
Lynch and others' No. 1 Mott ..... Standing 580 ft.
Pearson Oil Co.'s No. 2 Irrigated Farms, Blk. 3 ..... Abd. dry 1,415 ft.
Rawdon-Hughes and others' No. 1 Bendele, Survey 593 .. Drlg. 815 ft.
Rawdon-Hughes and others' No. 1 A. L. Haegelin ..... Location.
Rawdon-Hughes and others' No. 2 Bendele ..... Standing 937 ft.
Cecil Switzer's No. 1 Zerr ..... Fishing 3,700 ft.
W. W. Woodworth's No. 1 Reinhart, J. Hall Survey ..... Shut down 1,964 ft.

MILAM COUNTY

J. M. Burkhead's No. 1 C. Welgham ..... Drlg. 1,690 ft.
E. L. Chapman's No. 1 E. G. Knight ..... Drlg. 400 ft.
E. L. Chapman's No. 1 J. M. Gilchrist ..... Drlg. 2,343 ft.
H. E. Elliott and others' No. 1 J. C. Moore ..... Drlg. 2,000 ft.
Hill & Bonwell's No. 1 B. Booher, James Welch Survey .. Drlg. 2,007 ft.
Wilson and others' No. 1 Johnson & Stiles ..... Location.
Elbert Williams' No. 1 Tom Shigut ..... Shut down 2,000 ft.
Milam Oil & Gas Co., 4 miles southeast of Rosebud ..... Drlg. 600 ft.
A. H. Wray's No. 1 D. D. Fowler ..... Setting casing 302 ft.

McMULLEN COUNTY

Natt Holman's No. 1 Shiner, H. M. Brewer Survey ..... Standing 790 ft.

NUECES COUNTY

Nueces River Basin Dev. Co.'s No. 1 F. C. Allen ..... S.D. 3,780 ft. waiting for csg.
Pearson and others' No. 1 Bluntzer ..... Standing 3,507 ft.
R. & G. Corp.'s No. 1 Emily Wright Perkins ..... Standing 3,510 ft.
R. & G. Corp.'s No. 1 Roberts ..... Location.
R. & G. Corp.'s No. 1 Ragland ..... Standing 3,003 ft.

SAN PATRICIO COUNTY

Magnolia Petroleum Co.'s No. 1 C. Freeman, Sec. 57 .... Spudded in.
Houston Gulf Gas Co.'s No. 3 Welder ..... Drlg. 4,200 ft.
Magnolia Petroleum Co.'s No. 1 Miller Ranch ..... Duplicate of No. 1 C. Freeman.

STARR COUNTY

Ohio Oil Co.'s No. 1 Bass, Por. 76, Blk. 71 ..... Drilling.
U. S. Oil & Gas Co.'s No. 1 Kelsey, Por. 76, Blk. 11 ..... Standing.
The Texas Company's No. 1 V. C. de Guerra, Por. 68 .... Abd. 3,869 ft.

VICTORIA COUNTY

Humble Oil & Ref. Co.'s No. 3-A J. J. Welder ..... Drlg. 3,124 ft.

WEBB COUNTY

O. W. Killam's No. 6 Billings ..... Drlg. 1,400 ft.
G. S. Lumpkin's No. 1 H. Yeager, Por. 33-34-35 ..... Location.
Usher Carson's No. 2 D. Benavides, Sur. 1,613 ..... Standing 1,005 ft.

WILLIAMSON COUNTY

J. C. Hawkins, 1½ miles northwest discovery well ..... Location.

ZAPATA COUNTY

National Oil Co.'s No. 1 D. B. Adams ..... Standing 690 ft.
Buck & Coursey's No. 1 Garza, Blk. 47 ..... Drlg. 1,340 ft; gas showing.
Buck & Coursey's No. 1 Trevino, Sur. 1 ..... Drlg. 300 ft.

ZAVALA COUNTY

Tritex Oil Co.'s No. 1 Clay Burns ..... Drlg. 780 ft.
Tritex Oil Co.'s No. 4 West ..... Drlg. 795 ft.
Tritex Oil Co.'s No. 1 Childress ..... Drlg. 1,095 ft.

HASKELL GENERAL MANAGER

BRADFORD, Pa., July 20.—Announcement is made by the Associated Producers Co. of the resignation of R. M. Haskell, who has accepted the position of general manager with the Petroleum Reclamation company of this city. The change will be effective August 1.

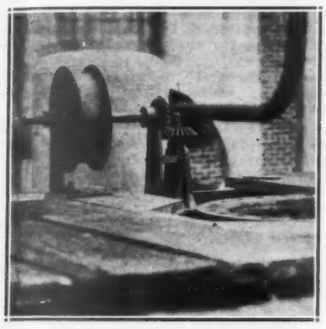
Haskell has been identified with the Associated Producers Co. for the past three years, and prior to this period, he was with the Tidal Oil Co. for five years. During the past year he has been engaged as production superintendent for the Associated Producers Co.

Practical Suggestions in Refining

By W. T. Ziegenhain

Reel and Cable Used In Operating Valve For Remote Control

For remote control in opening and closing valves on the Burton tube stills, the Standard Oil Co. of Kansas has adopted a reel and cable arrangement as shown in the picture here. The reel is made from a 5-inch length of 8-inch pipe



Reel and arrangement of gears for the remote control of pressure still operation at the plant of the Standard Oil Co. of Kansas.

with circular discs about 10 inches in diameter, centered and welded on each end of the pipe. The reel is then drilled through the center to take a 1-inch shaft and is welded to it, leaving room at one end to slip through a bearing housing, and room at the other end to accommodate a bearing housing and a gear.

The cable is not shown here because this installation was still under construction; however, it is general practice to run the cable around the reel drum several times, depending upon the number of revolutions needed to open and close the valve. The valve stem is also fitted with a beveled gear to enmesh the gear on the shaft. In some cases where the rising stem valve is used, a thread must be cut inside the gear.

On the opposite end from the gear the shaft is dressed off to form a square cross section. This permits the operator to turn the reel with a crank, fitted on the shaft here, if for some reason the cable is cut or entangled. On the other end of the cable is a hand powered reel similar in arrangement to this one, except for the valve and gears. The operator soon learns the position of the valve by the number of turns of cable on the reel. This method of control promotes safety in that the operator is away from the still itself, and because it is away from the still, it will allow the operator to open or close the valve as deemed best, should a fire occur. This method also permits a more concentrated control in that many control reels may be located within a relatively small space.

PURE OIL COMPANY NOW MANUFACTURING SOAPS

Along with the manufacture of grease, the Pure Oil Co. has installed soap making equipment at their new grease plant at the Marcus Hook refinery. These soaps will be supplied through their stations and to jobbers as automobile washing soaps, and in addition there will be a large volume of this soap consumed in the company's own manufacturing facilities. The equipment installed is of the latest design, although the plant will have a relatively small capacity.

Announcement of the new soap plant closely follows that of making their own paints in a new plant recently started operating, also at the Marcus Hook refinery.

LABORATORY CONTROL FOR SMALL PLANT PRACTICAL AND PROFITABLE

Many of the smaller plants have realized the benefits of laboratory control but have found it difficult to apply those principles in the every-day routine of the operation. This has sometimes been the result of adopting too ambitious a program at the start and sometimes it has not been given a long enough trial. If laboratory control proves effective in the larger plants where automatic regulation, systematized operation and the responsibility of the personnel is well defined, it should prove even more effective in the smaller plants where these are sometimes lacking.

The laboratory may be anything the company wants it to be. It may be a makeshift affair to be called into use when trouble occurs, or it may be made the guiding factor to avert trouble. In the latter case it is necessary to carry a greater number of men on the payroll than in the first case, but there will be fewer complaints, fewer adjustments to make because of off-specification material, and there will be no price concessions necessary in order to sell the material in competition with refiners who do guarantee the quality of their products.

It is general practice for the refiner to have on file in the laboratory and in the sales office a complete set of guaranteed specifications on all products sold. This is often made up in booklet form and is given to all departments and even to the larger customers, so all will be in agreement on what to expect when ordering any standard product. Loose leaf books, in which revisions and additions may be inserted, have been used satisfactorily. In addition to the bare specifications, the method of testing should be referred to in all cases. It is an easy matter for the purchaser or the salesman to show a specification in the order which might be met by one method of test but could not be met in accordance with the test the purchaser had in mind. This is not as likely to happen now as several years ago, when every refiner had his own methods, but this still holds true in many cases. A simple manner of dispensing with that question is by saying the methods of test shall be the same as those used by the government in a bulletin such as Bulletin 323B, and those tests not outlined in the bulletin may be briefly outlined or reference made elsewhere. Where the American Society for Testing Materials publications are available, these may be referred to.

This is intended to bring about a common understanding regarding what is expected by the customer and what must be supplied by the plant and the manner in which it is done is optional with the company. The laboratory's function then is to guide the processing of the oil to most economically meet the specifications demanded of the purchaser and as a final precaution, to inspect the oil before shipment to see if the customer's demands have been met.

Three Departments

The ordinary small laboratory has three distinct duties or departments, (1) control, (2) inspection, (3) research. The value of the inspection of the oil before loading has been generally recognized, but the value of the laboratory in processing has been often overlooked because the operator takes the attitude the laboratory man is trying to show him up. When this prejudice is overcome through explanation and contact, the operator will soon see the practical value of the laboratory tests. The extent to which the small laboratory is able to carry on research is dependent upon the policy of the company in supplying the needed equipment and the additional help.

As a start in laboratory control, the small skimming plant, equipped with cracking units, as many of them are, might adopt a schedule of routine testing as outlined below. In this case it is assumed the only products made are gasoline, kerosene, fuel oil and coke.

To judge the plant operation from day to day and for comparison months later, it is first important to know the quality of the crude. It is not necessary to run more than a gravity determination and a B.S.&W. determination on the crude daily where the source of the crude remains unchanged. When cutting into a new crude tank, at least these tests should be taken as a guide in knowing whether the gasoline yield should increase or decrease compared to the operation previously. Similarly, if the B.S.&W. show up high, it may be necessary to arrange to settle it in advance or prepare to blend the resultant fuel oil with low B.S. material to meet the general specifications. These tests should be made at a specified time each day, preferably early in the morning before the rest of the work begins to come in.

Control Work

For the control of the operation samples should be taken of each stream every 4 hours at least. This is done in addition to the taking of the gravity at least hourly by the stillman. These samples should be collected by the laboratory independent of the stillmen to serve as a check. The following tests are the more important ones to run on the samples collected:

Product and Tests

Gasoline—Initial point 90 per cent on distillation, endpoint, color.

Kerosene—Gravity, flash, color.

Fuel Oil—Gravity, per cent B.S.&W.

Gas Oil—Gravity.

Pressure Distillate—Initial point, 50 per cent distillation point, 90 per cent distillation point, endpoint.

The above tests do not take a great deal of time, and to be of value, a control test must be made quickly. Yet, the results will be indicative of the plant's operation and will give the superintendent a good check on the general operation. The result will be the laboratory becomes the point at which the operating data is concentrated and the logical point from which to review the operations.

Then as the cars are loaded and stand ready for inspection, the laboratory should take a pint sample from each car for inspection in the laboratory before that car is billed out. The kind of test to make is dependent upon the specifications outlined by the customer or those outlined in a specification book as described.

In addition to the control tests and the shipment tests, it is advisable to observe a monthly inspection of the finished oils in storage. This series of tests could be limited conveniently to the larger tanks to minimize work. A complete set of tests should be made, however. The following tests should be made at this period, as a guide for the superintendent and for the sales department:

Gasoline: Complete distillation, gravity, color, per cent sulphur, corrosion, doctor.

The gravity of the tanks, together with the volume in storage, will serve to guide the purchases of natural gasoline in advance, and often a substantial savings may be effected here.

Kerosene: Gravity, flash and fire points, color, 24-hour burning test, doctor.

Gas Oil—Gravity, B.S.&W., sulphur, pour point.

Fuel Oil—Gravity, pour point, furol viscosity at 100 degrees Fahrenheit, B.S.&W.

Recent Patents

USE AMMONIA TO STOP CORROSION

1,715,095. Prevention of Substantial Corrosion in Hydrocarbon-Oil-Treating Apparatus. Jacque C. Morrell and Harry P. Benner, Chicago, Ill., assignors to the Universal Oil Products Co., Chicago, Ill., a corporation of South Dakota. Filed September 3, 1925. Serial No. 54,340. 2 Claims. (Cl. 196—36.)

1. A method for preventing corrosion of the condensing portion of an oil cracking apparatus, consisting in introducing ammonia in solution to the vapors subsequent to the heat treatment thereof and prior to their passage through the condensing portion of the apparatus whereby the ammonia solution is not subjected to the oil cracking conditions, to effect a neutralization of the hydrochloric acid contained in the vapors formed during the cracking reaction in the apparatus.

PREPARE RUBBER-LIKE MATERIAL FROM HIGH SULPHUR OILS

1,704,194. Rubber-Like Substance and Process of Obtaining the Same. Edgar W. Hultman, Los Angeles, Calif., assignor of one-fourth to Francis P. P. Duncklee, one-fourth to Joseph Monteleone, and one-fourth to Walter R. Simons, Los Angeles, Calif. Filed October 29, 1927. Serial No. 229,682. 16 Claims. (Cl. 196—78.)

1. In the preparation of a rubber-like substance: contacting a liquid mineral oil material, substantially free from constituents which boil at temperatures substantially below 400 degrees Fahrenheit, with a polymerizing agent of the class including cerium and tin oxides at substantially below 400 degrees Fahrenheit, then substantially cooling and treating with an activated reducing gas at a temperature below that used in the polymerizing operation, subjecting to a halogenating reagent of the class including chlorine, bromine and boron fluoride, to produce a soft rubbery product in the resultant oil material, and separating it from the bulk of the oily material.

14. As a new product, a rubber-like mass having in general the properties of the rubbery mass produced by successively contacting a liquid mineral oil material, polymerized by treatment in a liquid state with a polymerizing agent of the class consisting of cerium oxide and tin oxide, with an activated reducing gas, and with a halogen separation agent of the class including chlorine, bromine and boron fluoride.

1,716,136. Apparatus for the Conversion of Hydrocarbons. Lyman C. Huff, Chicago, Ill., assignor to Universal Oil Products Co., Chicago, Ill., a corporation of South Dakota. Filed February 23, 1924. Serial No. 694,512. 1 Claim. (Cl. 196—63.)

An apparatus for distilling hydrocarbons under high temperature conditions, comprising a still positioned in a furnace, a plurality of conduits extending along the exterior lower surface of the still, means for supplying steam to said conduits, a plurality of conduits extending along the lower interior surface of the still, means for supplying steam, subsequent to passage through said first conduits, to said second conduits, said second conduits being so perforated that the steam will be directed directly against the lower interior surface of the still, whereby direct application of extremely hot combustion gases to the lower portion of the still is prevented and coke deposition upon the interior surface of the lower portion of the still avoided.

35 CENTS a line first insertion; 25c a line each additional insertion. Cash in advance.

CLASSIFIED WANTS

CREATE AND BUILD BUSINESS

MAIL your advertisement now. It will be published next week. Cash with order.

EQUIPMENT WANTED

WANTED—Good used agitator of 200-400 bbls. capacity; also medium sized air compressor. They must be in good condition and priced right. Big Lake Refining Co., Big Lake, Texas.

WANTED—Meter in good working order to work between 20 and 50 pounds pressure and handle up to 400,000 cubic feet gas per day. Address Box D-12, The Oil and Gas Journal, Tulsa, Okla.

FOR SALE—EQUIPMENT

READY FOR IMMEDIATE SHIPMENT
PRICED RIGHT
50 MILES 4" O.D. PLAIN END PIPE
11 MILES 12" O.D. PLAIN END PIPE
15 MILES 4" STD. SCREW PIPE
60 MILES 2" STD. SCREW PIPE
All sizes in casing and line pipe from 2" to 15⅛" inclusive.
PRODUCERS PIPE & SUPPLY COMPANY
612-13 Kennedy Building
Tulsa, Oklahoma

200-165-150-125 and 110 HP. Bessemer Gas Engines.
240 KW., 2,300 Volt, A.C. Generator.
180 KW., 2,300 Volt, A.C. Generator.
20,000 ft. of A No. 1 3-in. line pipe.
15,000 ft. of A No. 1 2-in. copperized pipe.
Box 398, Butler, Pa.

USED
GASOLINE PLANT EQUIPMENT
Sectional Steel Bldg. 50'x108'x14' $1,500.
8,000 Gal. Hor. Tanks @ $150 each.
2—110 H.P. Miller Gas Engines $800 each.
4 Ing.-Rand Compressors 13½x6½x14 $400 each without cylinders.
Ingersoll-Rand Duplex Vaccum pump 20" by 12" $100.
2" Pipe @ 5c; 30 HP boiler $25.
Various sizes of Pipe Fittings and Valves, Steam and Power Pumps and numerous other articles at one-fourth new prices. Complete list with prices on application.
W. E. DeYarmett
412 Philtower Tulsa Phone 4-6833.

FOR SALE—One Turnbuckle Standard Rig, 5-inch irons, steel bull wheels, steel band wheel, steel walking beam, 45 H.P. boiler, 11½ by 12 Ajax engine. Complete string tools. Two thousand feet 6⅝-inch, 20-pound California casing new.
Wm. H. Cater,
2643 Monroe Street,
Chicago, Illinois.

BRAND NEW WIRE ROPE
FOR SALE
30,000 feet, 1" Plow steel, 6x19.
10,000 feet, ⅞" Plow steel, 6x19.
10,000 feet, ⅝" Cast steel, 6x7.
150,000 feet, ¾" Cast steel, 6x7.
ABOVE LOCATED AT
LOS ANGELES, CALIF.

75,000 feet 1" and ⅞, Plow and Cast Steel, 6x19.
23,000 feet ¾" and ⅝" Cast Steel, 6x7.
ABOVE LOCATED AT
ST. LOUIS, MO.
Lengths of ropes run from 500 to 5,500 feet each. Very low prices; quality and length guaranteed. Will sell one or more reels of rope. Address or wire Box D-15, The Oil and Gas Journal, Tulsa, Okla.

BUY OR RENT USED PIPE
and Save the Difference
15,000'— 5⅛" Casing.
10,000'— 6⅝" Casing.
5,000'— 8¼" Casing.
5,000'—10" Casing.
1,000'—12½" Casing.
1,000'—15½" Casing.
We will rent this casing or any other pipe which you may need. Let us finance your operations by carrying your pipe and casing investment for you.
KEYSTONE PIPE & SUPPLY CO.,
Holmes Building
Fort Worth, Tex.

FOR SALE
One Pattin 14 by 12 vacuum pump engine flywheel and pulley, nearly new. Cost $500, sell $200. Henninger, Box 308, Iola, Kans.

FOR SALE—EQUIPMENT

SPECIAL
5,500 ft. of 6¼" Natl. seamless A.P.I. 28-lb., 10 thread casing. Once run and in practically new condition.
The Grimes Pipe & Supply Co.
Denver, Colo.

STANDARD TEMPER SCREWS 50 per cent regular price to reduce excess stock. United Iron Works, Inc., Hunt Bldg., Tulsa, Okla. Phone 4-9181.

WILL SELL at a low price Sullivan diamond core drill including diamond bit. S. H. Shook, Sweetwater, Tex.

FOR SALE complete set Standard Tools. 12x12 AJAX engine (NEW). 2,000 ft., 6⅝-inch, 24-pound. 700 ft. 10-inch, 52-pound. 1,500 ft., 2-inch pipe. F. E. Turner, 217½ Broadway, Muskogee, Okla.

FOR SALE

1,000 tons tank steel plates consisting principally of ⅜" and ¼" sheets 62"×14' to 16'.

Located at Coffeyville, Kansas, and Vinita, Oklahoma.

For prices and delivery wire or phone

MACHINERY & SUPPLY CORPORATION

JOPLIN, MISSOURI.

FOR SALE
1,500 feet 6⅝-inch, 24-pound, 10-thread Emsco screened casing, 60 mesh.
64 slat 5-6⅝-inch, 10-thread by 8¼-inch, 8 thread WKM liner packers.
5 WKM set shoe combination with wood gas plugs.
1 WKM liner packer lining tool.
Above material is new.
J. E. Galligan, Box 2087, Tulsa, Okla.

BUSINESS OPPORTUNITIES

EXCELLENT DRILLING proposition on well defined structure in Muskogee high grade oil territory. Favorable proposition to parties who mean business and quick action. J. L. Haner, 105 McKibban Bldg., Muskogee, Okla. Tel. 467.

BLOCK West Texas near Big Lake. Show of oil and gas in edge hole. Need $25,000. Can sell enough acreage to pay for well. Best geology. Box D-10, The Oil and Gas Journal, Tulsa, Okla.

RIO GRANDE VALLEY BARGAINS
A NICE HOME with ten acre Citrus Grove just coming into bearing..$12,500.
10 ACRES on paved road, five acres in bearing grove, small improvements $7,500.
40 ACRES good citrus soil on road to be paved soon, extra good buy...$8,000.
10,000 acres in heart of the Valley, price, terms and development proposition on application. A. V. BROWN, Agent, Harlingen, Texas.

YOU can make BIG money helping to develop the gold mining industry of Colombia, South America. For particulars address Davidson, 201 First National Bank, Denver, Colo.

EASTERN INVESTORS in market to buy control or outright, small royalty company that can show exceptional assets. Give complete details. Address Box D-32, The Oil and Gas Journal, Tulsa, Okla.

WANTED — DIVIDEND PAYING ROYALTY COMPANY TO FINANCE. J. MYRON MURPHY COMPANY, 43 EXCHANGE PLACE, NEW YORK CITY.

FINANCE. Underwriting service. Barrick, New Martinsville, W. Va.

BUSINESS OPPORTUNITIES

WILL DEVELOP proven shallow oil and gas acreage Southeast Kansas. Maps, plats, full details desired. 2680 Dahlia St., Denver, Colo.

2,000-BBL. REFINERY FOR SALE AT RUSSELL, KANS.
Geo. H. Siedhoff Construction Co.,
Wichita, Kans.
Telephone Market 885.

WANTED—Brokers-salesmen to sell our Issue Money raised for expansion construction work on refinery. Apply quick. Victory Petroleum Co., Big Spring, Tex.

OIL INDUSTRY PRINTING

OIL FIELD LEGAL BLANKS
Leases, assignments, releases, township books, well records, etc. Request on your letter head gets free catalog. Olds Press, 215 East Third St., Tulsa, Okla.

CONSUMERS LEDGERS
We are prepared to furnish from stock standard forms of gas meter Consumers Ledgers. Sample forms and quotations on request. First-class material and workmanship.
DERRICK PUBLISHING CO.
Oil City, Pa.

HELP WANTED

WANTED—Two designing draftsmen with general oil refinery experience in piping concrete and structural steel. Give detailed experience in writing with date you can report. Shell Petroleum Corporation, Sellers, Louisiana.

DRAFTSMEN wanted with piping experience in oil refinery or similar industry. In replying give full details of personal history, experience, salary desired, also small photograph. Box D-11, The Oil and Gas Journal, Tulsa, Okla.

WANTED
Chemists or chemical engineers; must be thoroughly experienced in one or more of the following:
Petroleum Asphalt Work.
Petroleum Wax Plant.
Petroleum Grease Manufacture.
Petroleum By-Products Manufacture.
In reply give detailed information regarding personal history, education and experience. Send kodak picture of yourself. Give references; state salary expected and date available. Applications will be held confidential. Address Box 788, Wood River, Ill.

WANTED a young man familiar with oil well supplies and oil field equipment for estimating department. Must have some technical education. Give age, education and experience. Address Box D-20, The Oil and Gas Journal, Tulsa, Okla.

ENGINEERS-DRAFTSMEN
Experienced Engineers, Draftsmen, Supts., and other trained refinery men. Unusually good salaries with representative organization. Give age, education, complete record, and when available. Address Technical Division, Co-Operative Employment Service, 300 Board of Trade Bldg., Kansas City, Mo.

SEC'Y and Office manager for Tulsa Royalty Company. Must be able stenographer and correspondent. Familiar with the business. Exceptionally fine opportunity for ambitious young man. Give complete details, education, experience and minimum salary expected. Address Box D-33, The Oil and Gas Journal, Tulsa, Okla.

WANTED—A graduate Mining Engineer with two or three years of oil refining experience for plant development work. Co-operative temperament essential. In first letter, give age and photo, outline of college work, married or single, positions held together with a brief description of the work you are now specializing in. Reply to Shell Petroleum Corp., Sellers, La.

HAVE OPENING for experienced Lubricating Oil Treater; must be experienced in Contact Filtering; state experience in detail, salary expected, references, age in first letter. Address P.O. Box 1062, Dallas, Texas.

POSITIONS WANTED

RESEARCH OR PROCESS development position, requiring originality and chemical ability, by graduate chemical engineer, 26, unmarried. Three years' petroleum experience. Now employed. Address Box D-37, The Oil and Gas Journal, Tulsa, Okla.

WANTED—Position with some large oil or manufacturing company as manager of purchases and stores. Twenty years' experience in handling purchases and stores for one of largest independent corporations in South. If interested, full particulars and references will be exchanged. Address Box D-23, The Oil and Gas Journal, Tulsa, Okla.

CONSTRUCTION ENGINEER with 17 years experience in refinery, pipeline, gas compressor station and all other petroleum industry construction work and always in responsible position desires to make new connection with responsible firm. Am engaged at present and considered a good organizer who can get results. Can handle any size job. Address Box D-31, The Oil and Gas Journal, Tulsa, Okla.

FIVE YEARS' experience superintendent gasoline plants with major companies desires change. Would consider foreign service. Best of references. Box D-40, The Oil and Gas Journal, Tulsa, Okla.

ACCOUNTANT—Holds C.P.A. certificate and license to practice law. Successful public accounting experience covers all branches of oil industry. Competent to take complete charge of accounting system for producer, refiner and marketer. Want responsible position with established concern in Mid-Continent Field. Address Box D-36. The Oil and Gas Journal, Tulsa, Okla.

POSITION WANTED by man with eight years' experience with natural gasoline plant construction or operation. Can handle any position desired. Address Box D-35, The Oil and Gas Journal, Tulsa, Okla.

CHEMICAL ENGINEER, experienced in gasoline plant work, desires position with gasoline plant or refinery. Address Box D-39, The Oil and Gas Journal, Tulsa, Okla.

YOUNG ADVERTISING MAN available August 1. Eight years in Oil Field Supply Sales and Advertising, familiar with Equipment, Manufacture, Prices and Uses. Expert Catalog Compiler. Age 30. Engineering education. Address Box D-38, The Oil and Gas Journal, Tulsa, Okla.

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FINANCE YOUR OWN project with shares bonded. Quickest, most satisfactory known method of raising capital. Information free. Bankers Interstate Security. Electric Bldg., Denver, Colo.

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CORPORATE ORGANIZING and promoting of meritorious enterprises, reorganizations and new financing.
The Brookworth Co., Inc.
110 East 42nd. Street
New York, N. Y.

CAPITAL — An experienced, dependable broker will aid in financing propositions of merit. Amster Leonard, East Orange, N. J.

BULLETIN, containing information of priceless value to responsible parties seeking capital, yours upon request. Free analysis and advice cheerfully given. Moderate rates. Prompt service. Morris, Financing Specialist, 3608 Warren St., Philadelphia, Penna.

ADDRESSES WANTED

ANYONE knowing the whereabouts of Bill Hart, cable tool driller, will be doing him a favor if they will notify Box 661, Tulsa, Okla.

35 CENTS a line first insertion; 25c a line each additional insertion. Cash in advance.

CLASSIFIED WANTS

CREATE AND BUILD BUSINESS

MAIL your advertisement now. It will be published next week. Cash with order.

LEASES—PRODUCTION

SEND NOW for list of attractive oil and gas leases and royalties in 17 interesting Texas counties at $1 per acre and up. Also want agents anywhere in U. S. on liberal commission. National Land Co., Box 73, San Antonio, Tex.

7,000 ACRES for lease in Washington County. Lease located 3 miles South Sun Oil Field. About 18 miles Northwest of Bellville Oil Field. About 10 miles West of Wesley Oil Field, between 3 big oil fields. This almost proven oil territory. Many derricks up and drilling all over the county. A wonderful opportunity. M. E. Fisher, Brenham, Texas.

FOR LEASE, Lea County, New Mexico, 3,000 acres close to production. Attractive proposition for responsible man who can drill at once. Phone 3-4229, 405 Burk Burnett Bldg., Fort Worth, Texas.

OIL LEASES and Royalties for sale. Oklahoma and Texas. O. O. Milliken, Box 63, Oklahoma City, Okla.

REAGAN CO. Deepest producing well in the World, 8,523 ft., 5 acre leases for $100.00 amidst California Oil Co. Block just assembled. My leases surrounded by Sun, Magnolia, Gulf, Humble, Shell, Marland, Skelly, Empire, Pure, Texas and the Associated Oil Co. Buy before prices advance. Paige Smith, Box 94, Nicoma Park, Okla.

WASHINGTON County, Tex., about three miles west of Yegua field, on local structure, good geology surrounded by drilling. Twenty, forty, or eighty acre leases, twenty dollars per acre. Courtesy to brokers. Box 183, San Antonio, Texas.

FOR SALE—Lea County, New Mexico, Oil and Gas leases. Five year, low rental. Small investment. Terms. Monarch Inv. Co., Roswell, N. M.

LANDS, Leases, Royalties and drilling blocks in proven or unproven territories, Winkler, Pecos, Ward, Loving, Reeves, Culberson and adjoining Counties. Wire or write.
H. F. Anthony, Anthony Bldg.,
Pecos, Texas.

30,000 ACRE lease in Harding Co., New Mex. Will sell or make drilling contract. Have Geologist's report. Plenty of structure in sight. Also for sale or lease. 160 acres Grey Co., Texas. 1½ miles from big wells at LaFores. W. H. Woodlief, 728 N. Fillmore St., Amarillo, Texas.

IF INTERESTED in the Michigan Oil Fields, write for free bulletin, or other information. Michigan Oil & Mining News, 115 Ionia St., Grand Rapids, Mich.

BROKERS AND DEALERS wanted to handle cheap oil and gas leases in West Texas. Big chance to make money. Write for list. Tom Hughes, P. O. Box 458, Dallas, Texas.

WILL BUY oil production, also any commercial process for refining or treating oil. Give full information first letter, including amount of daily production, acreage, gravity, plot of property showing location of wells and surrounding wells, pipe line buying oil, price of oil, legal numbers of land, equipment, price wanted, etc. Description of process, patents, licensees, earnings. Prefer deal with owners. Address Box D-30, The Oil and Gas Journal, Tulsa, Okla.

PRODUCTION BUYERS settled and paying properties, 25 bbls. up. Only first class producing leases handled in shallow oil district of Callahan, Shackelford, Brown, Stevens counties. Also well located acreage within trends for shallow drilling. W. M. Breuer, Box 305, Cisco, Texas.

WICHITA FALLS, Texas, district is most economical field in which to operate. Based on recovery and low cost of exploration. Our record of discovery oil proves worthwhileness of your investigating blocks we are now drilling with view of taking play with us either by buying offset acreage, interest in one wildcat or playing five well spread. H. B. Dudley, 704 Hamilton Bldg., Wichita Falls, Texas.

S.E. OKLAHOMA absolute title land bargains, 40 to 1,000-acre tracts of coal in new oil and gas field; $5 an acre up. John Cavanagh, McAlester, Okla.

LEASES—PRODUCTION

OWN IN FEE with all oil rights 376,000 acres in Mexico, 50 miles north of Torreon and southeast of El Paso, Texas. Sacrifice $2.00 per acre, $50,000 cash, $50,000 six months and balance spread over a period of 5 years. 90% level land. Excellent oil possibilities. Have log of water well drilled to 440 feet struck oil. Have complete geological report by Jose G. Aguilera, founder Geologists Institute of Mexico City. Mexican-American Land & Colonization Company, 3212 Wilshire Boulevard, Los Angeles, California. Drexel 0292.

LEASES AND ROYALTIES for sale. Drilling Blocks given for wells. O. O. Milliken, Box 63, Oklahoma City, Okla.

LEASE FOR SALE
New ten year lease with fifty cent rentals on Section 1, Block 34, Hudspeth County, Texas. $1.00 per acre. S. E. CURRY, Plainview, Texas, Box 771.

NEW MEXICO OIL LEASES
I have 4,000 acres in Quay County in tracts of 40 acres or up at 33 cents per acre. Rental 5 cents per acre. For maps and detail write Frank Strickland, Sapulpa, Okla.

FEE OWNER will sell lease NW Section 7-12-2e on Lincoln-Oklahoma line on topographical high. Major companies have adjoining leases. Also lease NW Section 19-11-3w, about 5 miles of big Oklahoma City well. No encumbrances. G. A. Minnich, Carroll, Iowa.

WANTED TO BUY 200 to 500 barrels daily production, with proven locations to drill. Deal only with principals. No brokers.
MID-TEXAS PETROLEUM CO.
321 Braniff Bldg.
Oklahoma City, Okla.

FINLAY DOME district, Hudspeth County, Texas, looks good. Map and lease prices, $1.00 cash.
G. D. BATEN,
BOX 1591. EL PASO. TEXAS.

INEXHAUSTIBLE Gas Wells at 300 feet 1,500 acre block in SE Kansas close to good industrial year around market at 10 cents. 5 gas strata 165 to 850 feet, gas production on all sides, no line pressure to buck. Long life sand gas and practically no decline to shale gas. Almost impossible to drill a dry hole. Block is for sale reasonable. Address P.O. Box 533, Bartlesville, Okla.

FOR SALE—By owner, 80-acre shallow lease near Putnam, 4 wells, all pumping; fully equipped, electrical power, 4 bbls. daily. Address 2001 Ave. D, Cisco, Texas. Telephone 655J, Cisco.

ONE SAFE AND SANE WAY—To engage in the oil business is to buy land in fee (carrying full oil rights) ahead of oil developments; we have a number of such tracts that are rich in agricultural production priced away below its value that can be sold later to get your money back and more with all oil rights reserved to you; many of the major companies operating in the west are now blocking acreage for an extensive drilling campaign. Write C. W. Sweitzer, Eads, Colo.

WILL BUY good production immediately if priced right. Give full information first letter, amount of production, gravity, acreage, plat of property showing location of wells and surrounding wells, pipe line buying oil, price of oil, legal numbers of land, equipment price wanted. Room 210, 200 Broadway, New York City.

$100 BUYS one direct interest in two oil leases and one well to be drilled on each lease in Southwest Texas. For full information write H. E. Martin, Box 683, Sweetwater, Texas.

FOR SALE—New Mexico deeded oil royalty ahead of the drill under Major Oil Company lease. Chance for huge profits. Small investment. Terms. Monarch Inv. Co., Roswell, N. M.

SALT DOME LEASE
All or part of 600 acres, ⅞ lease, close in, Aldine Dome, near Houston, Tex. Major companies hold adjoining acreage. Early Deane, 1938 Argyle Ave., Los Angeles, Calif.

LEASES—PRODUCTION

GRAY CO., TEXAS, lease in proven territory, SE 20 acres of N½ of Sec. 1, B.&B. Apply to E. Key, Marshall, Tex.

NEW MEXICO LEASES
In Roosevelt County surrounded by various companies all 10-year leases and 50c rental. 9 years yet to run and rental paid until July, 1930.
80-acre leases $150.00
160-acre leases $250.00
GLENN MYERS, SAN ANGELO, TEX.

FOR SALE—Leases, Oil Production, Asphalt, Limestone and Other Mineral Lands. W. P. Harley, Bowling Green, Ky.

Owner will lease 30 acres 5 miles of production in Pecos County, Texas. Description:
Survey Seven, Block O.
W. Abstract 4672, Certificate
4513, G.C.&S.F. Ry.
Major companies own thousands of acres and are producing wells east and west of this tract, which lies midway between two newly discovered pools. Ernest E. Tuggle, Supreme Court Library, Little Rock, Ark.

FOR SALE—2,000-acre lease with good "sweet" gas well, Panhandle Field, Texas. M.E.B., care The Oil and Gas Journal, Tulsa, Okla.

LEASES and royalties, Caddo, Blaine and adjoining counties. Write for complete list. A. E. Baldwin, Anadarko, Okla.

WINKLER—PECOS COUNTIES
Leases and Royalties
W. S. PATTERSON,
Pecos, Texas.

DRILLING blocks, leases, royalties in Ellis, Trego, Rooks, Norton Counties. Write or wire W. J. Madden, Hays, Kansas.

DEVELOPERS
Six thousand acre leases, good geology, located in Arkansas. Guaranteed market for gas. Attractive terms for development. Immediate market. Address Box D-21, The Oil and Gas Journal, Tulsa, Okla.

Mich.-Okla.-Tex.
Oil Land and Leases.
C. A. Sahlberg, 8 S. Dearborn St.,
Chicago.

ROYALTIES—PRODUCTION

PARTICIPATING ROYALTY. 10 to 40 acres. Your share of lease bonus will probably exceed cost of royalty. Full data Box C-978, The Oil and Gas Journal. Tulsa. Okla.

LEA COUNTY, NEW MEXICO
Perpetual Royalties.
W. S. PATTERSON
Pecos, Texas.

ARKANSAS royalties and drilling blocks in Cleveland and Grant Counties; 13½ acres in fee in Smackover fields for sale or trade. J. D. Shearer, Stuttgart, Ark.

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(Additional Classified Wants on Page 229)

Chicago Gasoline Market Still Quiet

Prices Were Generally Unchanged With Spot Movement Uneven. Consumption Large but Distributors Buying Lightly

By J. B. Waldo

CHICAGO, July 22. — The markets were quiet Monday, no active demand developing for any products. The spot gasoline movement was uneven, some believing that the demand was picking up a little but for the most part no change was noticed from the close of last week. Prices were generally unchanged with a range for U. S. Motor gasoline of 7½ to 8 cents, the larger refiners holding for the 8-cent price but other sellers quoting from 7½ to 7¾ cents. Some distress material was offered in small quantities at distress prices and it was difficult to move even a couple of cars on short notice. The gasoline demand was for the U. S. Motor and the antiknock gasoline. There was much complaint regarding the difficulty in securing shipping instructions on previous sales of any product.

Kerosene was ordered in small quantities and 5¼ cents was frequently quoted to land the order. The demand for both fuel and furnace oils was light and while the market held its own in a general way occasional offers were received of a limited number of cars which refiners wanted to move at quotations slightly under the regular market prices.

Distribution over the week-end was large and the consumption is so heavy that there is much speculating regarding the fact that distributors are able to meet the heavy demand from the motorists while purchasing so lightly from refiners who are their usual sources of supply. Reductions in gasoline prices so far have had little result in this market unless to unsettle the buyers' ideas of value.

Spot Price Reduced

The major refiners reduced their spot price for U. S. Motor gasoline one-half cent on Wednesday morning of last week, admittedly to meet the competition of other refiners who were quoting prices that attracted most of the spot business and were causing many contract customers of the larger refiners to do more or less spot buying.

Right at the first of June there had been increases in the posted price of Mid-Continent crude and tank wagon advances by the Standard Oil Co. of Indiana and others and the contract customers feeling that the market was started on an upward move, gave shipping instructions for at least their minimum quotas on or before the first of that month. The demand did not prove sufficiently enduring in large volume to take up the refinery surplus and with no large buying for export or by the large integrated companies such as was had last year, the competition between the refiners in the different refining centers brought about lower spot prices and towards the close of June a decidedly weaker situation. The result was that early in July jobbers held back their spot orders and in many cases were slow to give shipping instructions.

There were reasons for this action. For example, one jobber stated that his contract price at the first of July was 9.07 cents and that he could buy equally good gasoline in spot market for at most 8½ cents and possibly at 8¼ cents. He said that he must have a lower cost and so long as the refiner held to that price of more than 9 cents he must buy where he could obtain competitive material at no higher cost than his fellow oil men in the same locality were paying for their gasoline. While several of the major refiners have insisted that their customers were giving shipping instructions, there has certainly been a good deal of friction.

It was to some extent at least, to meet this and other complaints that the major refiners reduced their prices over a cent a gallon on U. S. Motor gasoline in a day or two one week. Of course they have felt the loss of the spot business. Some of the larger integrated companies may sell one-third of their output through their own stations, another third through their contract or exclusive franchise customers but they still have a possible one-third of the gasoline output of their plant for which they must find a market. Of course the division of the output suggested is entirely arbitrary and varies with each refiner. But the fact is that they cannot attempt to place 100 per cent of their possible output through their own stations unless they had very large resources both in equipment and financial strength.

There has been more purchasing of gasoline by jobbers during the last six weeks than some sellers are willing to admit, largely because they themselves have sold little. Jobbers are not buying for stock and will do little such buying so long as the tank wagon scale remains at its present level. That it will be reduced soon seems unlikely.

Station Business Good

The major companies, so long as they can dispose of the larger part of their output through their own stations at the current prices have no need to reduce the selling price to their customers. At the present time thir station busines is good. But the average jobber at least feels certain that there will be no advance in the station price nor in tank car costs and he will continue to buy as he has been doing for the past month for his own needs from week to week.

The price situation seems to be pretty well settled for the present, at the close of last week. Major refiners were holding U. S. Motor gasoline at 8 cents and the low of the market was 7¾ cents for really good material. Gasoline, so-called, has been sold as low as 7 cents by refiners to marketers but it was not up to notch, being off in color and having some odor. A good deal of the gasoline that is complained of as off in some respect would pass muster with the jobber and his customers if the material were less easy to buy and the prices stronger.

Price Made a Difference

One seller has been shipping cars to an out-of-town concern with no complaint whatever. The gasoline was sold for what it was, the price was low and the buyer ordered freely until the major refiners made the reduction last week. Then the buyer discovered how terrible was the gasoline and rejected several cars. However the gasoline was accepted when a price concession was made. One of the big Oklahoma refiners has a customer who swears by that refiners' gasoline. Recently a tank car was received and more as a matter of form than anything else a test was made. The result showed that it was off both in gravity and end-point. A second test was made with the same result. Still firm in his faith in the refiner the testing instruments were blamed and a sample sent to a laboratory for testing. The result proved that the instruments were correct. The gasoline was off. Of course it was promptly made right and a satisfactory explanation offered. Even at the quality showed by the test it was a fair gasoline but not of the full quality commonly furnished by this refiner to his franchise customers. The statement made regarding the lower priced gasoline that it is off in some respect is not always correct. Some of it is really good material.

The higher gravities continue neglected and easy as to price. One refiner quoted marketers for resale the 64-66-375 at 8¼ cents and offered the 68-70-360 endpoint at the same quotation. There has been almost no demand for the latter and the prices quoted have been largely nominal. There have been some rather unexplained quotations such as 60-62-437 at the same price as U. S. Motor and in other instances at the price of the 60-62-400 endpoint.

Kerosene Business Light

There has been only a light kerosene business and prices have worked easier. The demand is uneven, a few reporting a fair amount of cars sold but for the most part the sales are light. The decline in gasoline was reflected in the kerosene market and while several of the larger refiners are holding for 5½ and 5¾ cents the price of 5¼ cents is quite freely made and sales were noted at an eighth of a cent less during the past week.

There has been some buying of distillates and zero gas oil by distributors of furnace oil, but for the most part the trade are waiting until August or even September before they fill their tanks and begin to try to get deliveries to consumers. The market for these products is fairly firm as many contracts have been signed with refiners for the season's supply, usually at the market date of delivery. There are distributors who would like to get contracts at a fixed price over the season. One agent showed a pile of many such inquiries and said that he did not really know what price to name as so much had yet to be determined for the coming season. Any price named at the present time is almost certain to seem too high or too low before the season is ended or at the time of the largest consumption.

Many refiners are simply storing their product and not even naming a price. One large refiner is naming a minimum of 3¼ cents and a maximum of 4½ cents for his distillate and has made some contracts on a flat basis at 3¾ cents, but is not making any more contracts on this basis. Some argue that the winter is almost certain to be a mild one on the theory that one severe winter seldom follows such a season as we had in 1928-29.

Gas Oil Contracts Renewed

Gas oils, straight run, are moving from the refineries on contracts and gas companies have renewed their contracts with little being said regarding it. One of the best known of the fuel oil salesmen said that he had got in touch with gas companies recently and found that many of them had made provisions to supply their wants either on a time contract or through purchases for their storage. His prices were based on Group 3 quotations and he also found that the best price which he had to offer was, according to the purchasing agents, above their ideas as to price. Some of them had bought West Texas material, having found it satisfactory. Others did not like it.

One large light and power company is buying both Oklahoma and West Texas straightrun gas oil and is shipping one kind to some of its plants and the other oil to other gas companies in its string of gas making plants. The buyer stated that this was according to the results obtained by the different plants and from what he could see, the best plants could get more usable material from a full 32-36 straight run gas oil while other plants that were not as efficient would get as good results from the West Texas as from the lighter gas oil from Oklahoma. Prices are holding firmly and are a little higher with some refiners.

The zero oils have not begun to move in any volume, but are being held by refiners for the colder weather. Such as are really desirable for furnace oils are steady in price. The immediate demand is chiefly from such distributors as are ready to store some oil.

Little Change in Fuel Oils

Fuel oils have shown little change beyond the greater firmness that is developing on West Texas high sulphur oils. This is not a definite condition, for some buyers have been able to buy at former prices although the refiners are asking more money for their oil and say they are pretty well sold up for the most part on contracts which will care for their stored surplus.

Refiners generally are holding back and storing their fuel oil probably on the theory that now is not a good time to sell. The trouble is that if they keep on running and storing the fuel oil, they are liable to find many sellers at the beginning of the season of larger demand. The present consumption is good for the season. There is some reduction in industrial activity but it is less than is usually the case at this time of the year. Business has been little retarded by the summer season as yet and in most lines buyers are placing orders freely for the third and even the final quarter of the year.

According to reports made by oil men who have returned recently from the Southwest there is plenty of fuel oil, but much of it is of the kind which they say is only useful for the railroads and for a limited number of industrial plants. Of the better grades and particularly those with a gravity of 24-26 or higher which are low in sulphur and have a low or fair viscosity there is not an excessive quantity and some of this will not have a cold test lower than 30 degrees and will not do for long shipments after the first freeze.

Inquiries Fair

One of the largest sources of supply in this section is maintaining a 55-cent price to the consumer or 52½ cents to the reseller for its 18-22 gravity fuel oil. This is fairly high in sulphur but is run with a low cold test. There may be some easy spots in the situation but they are largely local or temporary; that is, they result from some refiner having more fuel oil than he cares to carry right now. The number of inquiries from buyers is not large but there are some and for fair quantities.

Buyers are inclined to hold back from placing orders for more than brief periods as they have one eye on the crude situation and cannot see how, with such large production, the oil trade can expect the crude prices to hold so they are buying only what they need.

Lubricating oils are still strong and in good demand. Bright stocks are being sought by several buyers and in the Mid-Continent Field refiners are well sold up. Only one of the largest has had large quantities of bright stocks and he reports several sales at the present price of 36 cents. Some refiners who are sold ahead are quoting 37 cents but this really means that they are out of the market for the time being and are trying to make a higher market for the time when they will have bright stocks to sell. The consumption of motor oils is large but supplies are largely drawn against contracts.

The larger distributors in this territory are having what they term an excellent gallonage.

In the larger communities prices are being held generally but as soon as the motorist is out on the highways he finds that the little roadside stations are selling at 1 or more commonly 2 cents under the regular price.

General Weakness in Eastern Markets

California Gasoline an Important Factor With Gulf Coast Product Beginning to Show Signs of Influencing the Trend of Prices

By A. E. Mockler
New York Bureau, The Oil and Gas Journal

NEW YORK, July 22.—General weakness has enveloped the refined products markets in East Coast territory this week, and the situation is less favorable all around. Gasoline prices are weakening and price shading is more or less general throughout the territory. While gasoline gallonage is running into exceptionally heavy totals, as the motoring season gets into full swing, there is keen competition for business, and there is apparently plenty of motor fuel around.

Much of the general weakness in refined products is traceable directly to the continued overproduction of crude oil, and the resultant weakening of the statistical position of the market. There is a general tendency on the part of leading interests to hold down the market so as to avoid further encouragement of additional crude output, and while crude oil continues available at present low price levels, refiners are in position to market their products at cheap prices.

There is a good deal of activity in the gasoline market not visible on the market surface. Indeed, internal competition at the moment is greater than for many months past, and shows no signs of abating. New interests endeavoring to strengthen their foothold in the eastern territory have been conducting aggressive marketing campaigns, and the established companies are taking every step possible to protect their gallonage. All of which makes the outlook for the gasoline market over the balance of the year unfavorable in some respects.

Tank Car Gasoline

General weakness is in evidence throughout the entire territory, and sellers who a month ago were looking for the establishment of the general market at 11 cents are now apprehensive regarding the permanence of the 10-cent basis in the East. Standard of New Jersey is still quoting 11 cents in tank cars, but admittedly is doing business a cent under this figure at all of its eastern terminals but New York. Other sellers are still quoting 10 cents per gallon in the local tank car market, this quotation covering California gasoline as well, but it is no secret that considerable current business is being taken at 9½ cents.

California gasoline is still an extremely important factor in the gasoline situation in the East, but the Gulf Coast product is also showing signs of influencing the trend of the market here. Motor fuel out of the Gulf is offered here this week at 9 cents per gallon, laid down in New York, which gives cargo buyers a full cent margin to work on, taking 10 cents as the average spot price here.

Jobbing demand for gasoline is good, but with so many new factors in the market, the business is being split up a good deal more than was formerly the case, and it is a constant fight for gallonage. Complaints of price cutting in competitive selling are now more general than for many months past, and it appears that the situation in this respect is getting worse, rather than better.

Unless there should be a radical change for the better shortly, the East Coast gasoline market will go into the season of heaviest consumption in an extremely unsettled position, with the position of marketing companies, from the profit standpoint, much less favorable in the second half of the year than has been generally looked for.

Tank Wagon Gasoline

Leading interests here appear to be determined to hold down the price of gasoline to the motorists, and the current break in the price structure in the Mid-Continent and in eastern markets as well has aided them in this respect.

There are no changes reported in the tank wagon basis in the territory, and more irregularity has developed in the service station position. Price cutting is being freely indulged in by retail distributors at many points.

With the Federal Trade Commission expected to announce its findings on the industry's code of ethics within the next week, some improvement in the marketing picture may develop, and there is plenty of room for improvement in many quarters.

Kerosene

Weakness rules in the tank car basis, with 7¾ cents per gallon the ruling basis, and intimations that this price can be shaded in a large way. The demand from the jobbing trade is still routine in character, distributors showing a lack of confidence in the market position and being unwilling to stock up in a large way in advance of actual requirements.

Sellers are keeping a close watch on their markets, and are prepared to meet competition in the event that refiners in Pennsylvania and other neighboring refining centers attempt to cut into the local territory by price concessions.

The tank wagon situation, however, remains fairly stable. The price is unchanged at 15 cents per gallon in New York and New England, and principal marketing interests report that they are doing a good business. The recent drop in the bulk market is not expected to affect the tank wagon quotation, which has been remarkably free of the influence of the refinery basis for the past year or more. Current indications are for a good volume of summer sales of kerosene throughout the East Coast territory.

Lubs

Further irregularity has developed in cylinder oils this week, and the market is extremely nominal. Variations of as much as 4 cents per gallon in the asking prices of different sellers are reported, and the market shows no signs of immediate stabilization. With the exception of bright stocks, which are fairly steady, the market this week is lower on all grades. Prices quoted for immediate delivery are as follows: 600 steam refined, 33 to 37 cents per gallon; 635 steam refined, 35 to 38 cents; 650 steam refined, 40 to 43 cents; 600 Pennsylvania flash, 47 cents per gallon; 630 Pennsylvania flash, 51 cents per gallon; 600 Warren E, 42 cents; 600 Oil City, 41 cents per gallon.

There has been little domestic buying this week, and the same holds true of the export market. This lack of demand is in large measure responsible for the unsettled price basis, not enough actual business being available to make a stable market on any of the grades. Buyers are still generally of the belief that prices will go lower, although operators in some instances are inclined to the belief that a few grades are a good buy at current levels.

The A.P.I. report for June, it is pointed out, showed a considerable drop in lub oil holdings at refineries east of the Rockies, and this is expected to be capitalized by refiners as a bullish argument. Then again, some operators contend, the current weakness of the market is very much magnified by the selling pressure which some weak holders are exerting. A little real buying, they declare, would clear up the semidistressed oil which is on the market now, and a price rally would be a natural sequence.

Red and pale oils have sold in slightly better volume for export this week, and the domestic trade is also taking on a little more activity. Prices are fairly steady on both oils on spot.

Paraffin Wax

The expected recovery in the position of refined wax has not developed, and the market this week is again fractionally lower on some grades, under continued quiet trading. Spot 120-122 a.m.p. is reported available at 3⅜ cents per pound, off an eighth, with 125-127 a.m.p. showing a corresponding reduction at 3⅞ cents. The market for 130-132 a.m.p. is also an eighth down at 4⅜ cents per pound. Spot 133-135 a.m.p. is holding its own at 6 cents, with offerings rather light. The market for 135-137 a.m.p, however, is down an eighth cent at 6¼ cents per pound.

Domestic buyers are evidently adequately covered on their prompt and nearby requirements, and are showing relatively little interest in offerings. Export buyers are in the market, but they are demanding material concessions, and are reported to be meeting with some success in locating low-priced stocks both here and at the Gulf.

Petrolatum

Activity in petrolatum has quieted down a little, and the market is about an eighth cent per pound lower on all grades, with the exception of dark green, which is about 10 points lower at 1.90 cents per pound. Amber is available in a carlot way at 3⅝ cents per pound, with extra amber held at 3⅞ cents. The market for cream on spot is down an eighth cent at 6⅜ cents per pound, with lily white and snow white showing similar declines at 7⅜ cents and 8⅜ cents per pound, respectively.

Refiners are still carrying a fair amount of contract business on their books for delivery to the pharmaceutical trades, but the volume of new business on spot has been rather light, and lower production costs resulting from the recent decline in prices for eastern crude oils have permitted refiners of petrolatum to offer out their product on a slightly lower basis. Sellers generally are looking for an early start of the fall buying season.

Gas Oil

There have been no further price revisions reported in this oil, but the current position of the market is far from strong. There are fairly large stocks of rerun product available in East Coast markets, and while the leading seller continues to quote the market at 5¼ cents per gallon, this price is being shaded materially in some quarters. Recycled gas oil is reported available as low as 4½ cents per gallon, with the market ranging thence all the way up to the 5¼-cent level.

Artificial gas companies are operating on a curtailed basis, as is customary at this season of the year, and this is naturally reflected in a falling off in gross sales totals. In addition, the demand for the lower grades of gas oil for use as fuel in domestic heaters is also very light at the moment.

Diesel Oil

Business is holding up exceptionally well in the Diesel oil division of the refined products market, and reports from several quarters indicate that current volume is running at about the highest totals of the year.

The market is in stable position with most sellers quoting $2 per barrel, in bulk, at terminals, with one seller still quoting 10 cents per barrel over this figure.

Refiners in this area have a large volume of Diesel oil business on their books for delivery over the balance of the year, and are looking for a steady expansion in the volume of spot activity during this period.

Tanker Market Firm

While there have been no further increases in charter rates, the tanker market continues firm for all positions, with bottoms for the transatlantic trade rather scarce.

Offerings of tonnage in the intercoastal trade are also small at the moment, many of the available tankers having been chartered by several of the large California companies for the movement of gasoline to the Atlantic Seaboard during the remainder of the summer season.

More demand for clean tonnage for movement of gasoline from the Gulf to North of Hatteras is reported, indicating a larger movement of Gulf gasoline to Philadelphia, New York and Boston, during the next few months.

Refinery Stocks

The June statistics on refinery stocks of refined products held at plants east of the Rocky Mountains are rather bullish with respect to gasoline and lubricating oil. These figures, compiled by the American Petroleum Institute, show a drop of 3,160,000 bbls. in holdings of gasoline and 297,000 bbls. in stocks of lubricating oils for the month, together with a decrease of 1,022,000 bbls. in holdings of foreign crude oil. These declines, however, are more than offset by increases of 975,000 bbls. in stocks of domestic crude oil, 639,000 bbls. in kerosene, 1,897,000 bbls. of gas and fuel oils, and 998,000 bbls. of miscellaneous products, making a net increase of 30,000 bbls. of all petroleum for the month.

The drop of 3,160,000 bbls. in gasoline holdings indicates the heavy increase in consumption of motor fuel this season. California gasoline is in direct competition with eastern gasoline throughout practically the entire Atlantic Seaboard territory, and in addition is now entering interior markets as far as Ohio and Indiana in a large way.

Fuel Oil

Bunker "C" has met with a continued heavy demand this week, and the market remains unchanged at $1.05 per barrel, bulk, at refineries, and $1.10 per barrel barged alongside within the harbor limits. Refiners are talking a continued firm market for bunker "C," notwithstanding the continued gain in refinery holdings of this fuel.

The agitation for the imposition of an import duty on foreign crude oil has been a bullish factor in the fuel oil situation, and has aroused some concern among steamship interests, who have gone on record as opposing any tariff on the foreign oil.

Practically all of the current marine business on fuel oil is against standing contracts, naming $1.05 per barrel, terminals, as the basis, and these contracts run for the next two years. Under these conditions, there has naturally developed a rather stable undertone to the market. Instances of price cutting are few and far between and generally involve only small quantities on the part of minor interests endeavoring to liquidate a temporary oversupply. Refiners nevertheless are keeping a close watch on the situation to protect their contracts, which give the buyer the right to divert his business at any time fuel oil is available in the open market at 10 cents per barrel or more under the quotation stipulated in the contract.

Exports

Foreign inquiry for gasoline has been dull this week, and no cargo fixtures had been reported up to the time of

(Continued on Page 229)

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Natural Gasoline Manufacture

SPECIAL GASOLINE HAS HIGH ANTIKNOCK VALUE

The Warren Petroleum Co., marketers of natural gasoline with headquarters in Tulsa, has recently contracted for the output of a new Oklahoma plant which is producing a gasoline of exceptionally low gravity with a high antiknock rating.

A test made by the Kansas City Testing Laboratory showed that the gasoline had a gravity of 69.2 degrees Baume, with an initial boiling point of 85 degrees Fahrenheit, a 50 per cent point of 192 degrees Fahrenheit, and an endpoint of 388 degrees Fahrenheit. In detonation rating the gasoline had a 43 per cent benzol equivalent. The gasoline has been found to be suitable as an airplane motor fuel.

The gasoline is manufactured at an oil absorption plant located near Marshall in the Logan County Field of Oklahoma. The gas is low in gasoline content and the plant is operated at a low pressure of about 10 pounds. This pressure is obtained from the wells as no compressor equipment is used. The gas has a gasoline content of about .6 gallons per 1,000 cubic feet.

The stable product is secured direct from the still without the use of a stabilizer. The knockout reflux of the still is carried at a low temperature so that the lighter hydrocarbons are not condensed. The plant at present is producing approximately 8,000 gallons of gasoline daily.

KETTLEMAN AGREEMENT'S EFFECT ON CASINGHEAD

LOS ANGELES, Calif., July 20.—There is considerable interest among natural gasoline manufacturers as to the attitude of the committees which have been appointed to investigate the Kettleman Hills, Calif., area, with the view of restricting operations until such time as the crude oil is needed. It is expected that the recommendations of the committee will mean a restriction in the quantity of casinghead gas available for natural gasoline plant operation.

The Texas Company has completed the installation of six additional units at its Kettleman Hills plant. This plant has been taking the gas from the discovery well of the Milham Exploration Co. With the additional equipment the plant now has sufficient gas to handle more than 100,000,000 cubic feet of gas daily. This is sufficient capacity to take care of the gas from two or more wells.

COMPLETE SHAFFER PLANT

The Skelly Oil Co. expects to start operating its new gasoline plant at Kings Mills in the Texas Panhandle Field this week. The plant will have an initial capacity of from 10,000 to 12,000 gallons daily. This is the second plant to be built on the Shaffer ranch property of the Skelly company.

The first plant, which is now producing approximately 30,000 gallons of gasoline daily, is also being enlarged. The plant with the additions will have a capacity in excess of 40,000 gallons daily.

NEW OKLAHOMA PLANT

Crosbie, Porter and Martin of Tulsa are building an oil absorption plant in the Carey Pool of Okfuskee County, Oklahoma. The plant site is located in SE SW 29-12-10. The plant will have a capacity of 20,000 gallons daily and will be completed not later than August 1.

The pool at present has 13 producing wells with additional wells to be completed before the end of the month. The plant is 5 mils northeast of Okemah.

GREATER SEMINOLE NOW PRODUCING 1,156,000 GALLONS OF GASOLINE

Although there have been changes in the operation of individual companies during the past month the total natural gasoline production of the Greater Seminole area remains practically unchanged. A check made of output as of July 19 shows a total daily production of 1,156,000 gallons. This compares with a production of 1,177,200 gallons on the same date in June, and 1,146,300 gallons in May. This daily average has shown very little change in the past six months.

It is probable that the 20,000-gallon reduction between the July and June reports can be accounted for by higher temperatures. Several of the manufacturers state that their production, due to increased vaporization losses, decreased during the past week. These losses however are not so great as those of a few years ago due to the more general use of vapor-tight equipment of all kinds.

The fact that the natural gasoline production of Greater Seminole area is being maintained with little change in daily average output is due to the completion of new wells. While there have been no new major pools in the area in recent months, inside drilling and the proving up of extension territory has resulted in many new wells being completed in recent weeks. In most cases the gas available from the older wells is decreasing especially in areas where the wells have been changed from the gas lift to the pump. In many cases manufacturers have been able to extend their gathering systems and obtain new gas supplies to offset the decline in nearby wells.

NATURAL GASOLINE PRODUCTION IN GREATER SEMINOLE—GALLONS DAILY

	Seminole City	Bowlegs	Earlsboro	Little River	St. Louis-Pearson	Maud	Mission	Total
Amerada Pet.	.....	8,000	12,500	.....	.....	23,000	.....	43,500
Barnsdall Oil Co.	.....	.....	30,000	.....	.....	20,000	.....	50,000
Carter Oil Co.	†123,000	6,000	.....	43,000	.....	.....	.....	172,000
Crosbie & Moran	.....	.....	26,000	.....	.....	.....	.....	26,000
Empire Oil & Refg.	*25,000	40,000	.....	12,000	.....	14,500	.....	91,500
Forrest E. Gilmore Co.	.....	9,000	.....	39,000	20,000	.....	.....	68,000
Gilmore Prod. Co.	.....	.....	.....	3,200	.....	.....	.....	3,200
Gypsy Oil Co.	.....	.....	.....	60,000	.....	.....	72,000	132,000
Independent O. & G. Co.	.....	.....	.....	30,000	.....	.....	15,000	45,000
Magnolia Pet. Co.	.....	.....	3,000	.....	15,000	.....	.....	18,000
Moran & Gillespie	.....	.....	.....	.....	22,000	.....	.....	22,000
Pure Oil Co.	15,000	15,000	.....	12,000	.....	.....	.....	42,000
Powers, M. F.	.....	.....	.....	.....	15,000	.....	.....	15,000
Shell Pet. Corp.	.....	6,000	.....	.....	50,000	.....	22,000	78,000
Sinclair O. & G. Co.	110,000	85,000	12,000	2,000	40,000	.....	.....	249,000
Skelly Oil Co.	.....	.....	28,000	.....	.....	7,500	.....	35,500
Victor Gaso. Co.	5,700	20,200	16,000	24,000	.....	.....	.....	65,900
Total	298,700	189,200	127,500	225,200	162,000	42,000	109,000	1,156,600
Prod. June 20	265,500	193,600	131,500	228,400	192,500	67,000	98,700	1,177,200

*Includes production of Indian Territory Illuminating Oil Co. †Includes 50,000 gallons daily production in Searight Pool.

Grade AA Gasoline

The bulk of the natural gasoline production in the Greater Seminole area is now Grade AA. In the winter months the production of Grade C and Grade BB was large. With the arrival of summer weather manufacturers shift their production to the lower gravity grades. This is reflected in smaller yields.

Among the larger manufacturers, the Carter Oil Co. manufactures Grade A exclusively. The Sinclair Oil & Gas Co. shifts the grade of its output from time to time based on market conditions but at present the bulk of its Seminole production is Grade AA.

All of the production of the Empire Oil & Refining Co. is Grade AA material with the exception of 14,000 gallons daily which is Grade BB. The Pure Oil Co. manufactures Grades B and BB at its plants. Crosbie & Moran, Amerada Petroleum Corp., Barnsdall Oil Co., Gypsy Oil Co., Independent Oil & Gas Co., Victor Gasoline and M. F. Powers are

(Continued on Page 242)

TO INSTALL GAS PUMPS AT MANGHAM, LA., PLANT

SHREVEPORT, La., July 20.—The International Gas Products Co., of Monroe, La., has placed contract with the Stearns-Roger Manufacturing Co., of Denver, Colo., for an absorption gasoline plant to be built near Mangham, a short distance south of production in the Richland Parish gas field, construction to begin at once. The contract is on a turnkey basis.

It will be built according to the designs and under the supervision of the J. A. Campbell Co., of Long Beach, Calif., and is designed to handle 30,000,000 feet of gas per day at 200 pounds working pressure, though the initial absorption equipment will be for only 15,000,000 feet. Residue gas will be delivered to the International's carbon plant adjoining which consists of one 30-unit and one 20-unit installation turning out approximately 20,000 pounds of black daily.

One of the interesting features of the of the gasoline plant will be the manner of piping and valving the pumps for operation on either steam or gas. Natural pressure will be used to operate the pumps as long as it remains high enough for the purpose, after which steam will be restorted to, but meanwhile the piping system will be such that either may be used at any and all times.

The fat oil will pass from the absorbers to the weathering tank where it will be weathered to 30 pounds. Weathered vapors will be treated in an auxiliary absorber which will also handle vapors from the gasoline dehydrating tank. Exhaust gas from the pumps and residue gas from the auxiliary absorber will go to a low pressure point in the carbon plant's gas supply line.

The cooling tower will be of the standard Campbell design, open construction and narrow louvers, 42 feet high and without decks. Along one side will be the precooler section, an open frame structure holding the hot ends of the oil coolers and gasoline condensers. This will have its own set of sprays and is designed to relieve the tower proper of the initial extreme heat load. A two-car loading rack on the Missouri-Pacific Railroad will furnish shipping facilities. The entire plant is to be in operation in about 70 days.

A PRACTICAL SUGGESTION

PLANT REFRIGERATOR

High vapor tension paraffin hydrocarbons were used as refrigeration agents before the advent of the natural gasoline industry. The product used was called Cymogene, which had a gravity of 108 degrees Baume and consisted chiefly of propane. The high stage gasoline or recompressor condensate can be utilized at the plant for making small quantities of ice with very small expenditure.

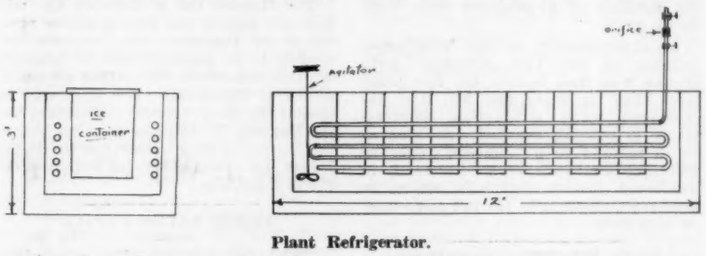
The high stage gasoline at 100 to 275 pounds pressure is expanded through a set of coils, immersed in a brine solution, to the intake of plant which may be 20 inches vacuum. The containers filled with fresh water are placed in the brine solution, which is gently agitated. It may require 12 hours to freeze the water in the containers.

The flow of gasoline is controlled by an orifice plate or, better still, a cast iron plug which is screwed into a union, backsawed off so union will seat and a one-sixty-fourth inch hole drilled through the plug. The coils are made of 1-inch pipe and are attached to each side of the inner box of the refrigerator, from which they run to the intake of the compressors so that there is no waste of gasoline.

The refrigerator is made of wood on the outside and contains a sheet iron liner leaving a space of about 8 inches, which can be filled with granulated cork or sawdust. The top of box has trap doors for placing in and removing the ice cans. The ice cans can be made at a local tin shop. They should be tapered some to facilitate removing a cake of ice.

Very little agitation of brine is required and if electricity is available a small motor can be used either to revolve a paddle or by means of an eccentric to stir by reciprocating motion. A steam pump can be used to circulate brine.

The arrangement shown in sketch on Bartlesville sand gas has made as much as 1,500 pounds of ice per day where gasoline expands from 275 pounds to 12 inch vacuum.



Plant Refrigerator.

Practical suggestions by those connected with the construction and operation of natural gasoline plants are invited. Payment will be made as soon as suggestions are accepted. Address all communications to the Natural Gasoline Department, The Oil and Gas Journal, Tulsa.

Brief Items for Petroleum Refiners

California Gasoline Gains in Importance In Eastern Markets

NEW YORK, July 20.—California gasoline, which is moving eastward in ever increasing quantities, is definitely assuming a dominating position in eastern markets, and extending the sphere of its influence far inland to markets where Group 3 and Pennsylvania refiners normally rule supreme. There is every indication, as the motoring season develops further, that movement of California gasoline eastward will show a continued expansion, and that the price trend in the East will be governed largely by the competition afforded by the California product.

During the first six months of 1929, California refiners shipped a total of 9,848,000 bbls. of gasoline to the Atlantic Seaboard, gain of almost 50 per cent over the 6,711,000 bbls. shipped eastward during the corresponding months of 1928. At the moment, a large portion of the California gasoline receipts in the East are being received at Philadelphia and Baltimore, and it is indicated that these two ports will handle the bulk of the California shipments during the remainder of the year, although New York will get many large cargoes, and some of this Pacific Coast motor fuel will move to Boston as well.

While eastern interests are inclined to minimize the importance of the California gasoline flood, the problem is no longer one which concerns the eastern refining and marketing branches of the industry alone. According to well authenticated reports, California gasoline is penetrating into Ohio, Indiana and other contiguous markets, and is being successfully marketed at those points in competition with motor fuel from Group 3 and other refining centers. Taking the present eastern and Group 3 gasoline prices as a basis, therefore, it is evident that the California product must be selling in interior markets at a price which will not net the seller back much more than 6 cents per gallon at California refineries. California refiners are quoting U. S. Motor at 9 and 10 cents per gallon at refineries, as against a weighted average of 8.53 cents at Oklahoma refineries and an inside quotation of 7¾ cents at North Texas refineries. Pennsylvania and Atlantic Coast refiners are quoting U. S. Motor at 10 cents per gallon, with 9½ cents available in some instances. Thus, assuming that Oklahoma, North Texas, Pennsylvania and Atlantic Coast refiners are holding at least somewhere near their quoted price levels, the concession on California gasoline must be an extremely generous one at various interior points where the California motor fuel is now selling in a large way.

REGAL CO. ENLARGES CAPACITY TO 2,000 BBLS.

CHATHAM, Ontario, July 20.—The Regal Oil & Refining Co. of Calgary is installing new equipment to bring the capacity of its refining plant up to 2,000 bbls. a day. The company started operations in August, 1927, with the first unit of the refinery, two bulk stations and three filling stations, and has been gradually expanding. It has a large bulk station at Edmonton and has recently purchased service station sites there.

Bulk stations are being built in Saskatchewan, and the company now has 25 such stations in Alberta. The company is owned largely by producing companies operating in the Turner Valley Field, including the McLeod Co., United Oils, Vulcan Oils, Spooner Oils, New McDougall-Segur Oil Co. and McDougall-Segur Exploration Co., while Detroit capital is represented by Frank P. Book. F. J. Huff is managing director.

CONSIDER MERGER OF WADHAMS AND BARTLES-MAGUIRE OIL COMPANIES

CHICAGO, July 20.—A meeting of the stockholders of the Wadhams Oil Co. has been called for the last of this month at which time a plan will be submitted for a combination of the Wadhams Oil Co. and the Bartles-Maguire Oil Co. Both are large distributors of petroleum products with headquarters in Milwaukee, Wis., and the combined outlets and resources of the two organizations will be made known at the meeting.

The tentative slate of the officers of the company includes: Chairman of the board, A. G. Maguire of the Bartles-Maguire Co.; president, H. W. Dodge of the Wadhams Oil Co.; executive vice president, Henry J. Stoll of the Bartles-Maguire Co., and secretary, L. W. McNally of the Wadhams Oil Co. The treasurer will also be the present official in that capacity with the Wadhams organization. The combined business of the two companies is estimated at upward of $20,000,000 annually.

Adopt Wadhams' Name

The new organization will continue to use the name of the Wadhams Oil Co., which is very widely known not only in Wisconsin but in the industry and has a very great advertising value. In addition to several hundred bulk and service stations, branches, trucks, blending plants and the like which go to make up the facilities of a very large oil company, the new organization will own a modern refinery at East Chicago and a rerun plant at Milwaukee.

The refinery is that of the Bartles-Maguire Oil Co. at East Chicago which has a rated capacity of 3,000 bbls. daily and is equipped with Jenkins process stills. The Wadhams Oil Co. has specialized on high-test gasoline and for some time operated a plant at Milwaukee in which straightrun gasoline was rerun to a 64-66 gravity, the residual being a high-grade naphtha and a little kerosene. At the time that this plant was working, the Wadhams Oil Co. was recognized as being the largest buyer of straightrun gasoline in the country. The plant is not being operated.

Each company has an office in Chicago. The Chicago office of the Bartles-Maguire Oil Co. is under the management of Henry Dolan who is in charge of tank car sales. This office is located in the building at 624 South Michigan Avenue. The Wadhams Oil Co. maintains an office in the Conway Building at the corner of Clark and Washington Streets, largely as a tracing office and local headquarters for the company.

The Bartles-Maguire Oil Co. has the franchise for the distribution of Ethyl Gasoline in Wisconsin and it is probable that this motor fuel will be pushed actively as "Wadhams Ethyl Gasoline," through the combined stations of the two companies, once the merger has been fully accomplished.

RIAL RESIGNS POSITION WITH RICHFIELD CO.

LOS ANGELES, Calif., July 20.—W. D. Rial, superintendent of the Wilmington refinery of the Pan American Petroleum Co,, formerly owned by the Doheny interests, and more recently under the management of the Richfield Oil Co., has tendered his resignation, effective August 1.

Mr. Rial started in the oil business with the Standard Oil Co. of Indiana, and was for a number of years associated with the Standard Oil Co. of California before going with the Doheny interests. Mr. Rial is considered an authority on the refining of by-products from California crude.

As superintendent of the Wilmington refinery of the Pan American since ground was first broken for this plant more than six years ago, Mr. Rial has sponsored many outstanding improvements in refining methods. As soon as he is relieved of his present duties he will take a needed rest at his ranch in Tuolumne County, but will return to southern California in the fall to re-enter oil activities.

BUYS WINTERS STATIONS

The Phillips Petroleum Co. has purchased all of the stations of the Winters Oil Co. according to an announcement from the Bartlesville, Okla., offices of the Phillips company. The sale includes 35 service stations all but 5 of which are in Greater Kansas City. It also includes 10 bulk stations in the Kansas City area.

The Winters company is headed by J. S. Winters who has been connected with the marketing branch of the oil industry for several years. No changes will be made in the personnel of the Winters organization by the new owners who already have a large number of stations in Kansas City.

O'BYRNE LEAVES LION

E. F. O'Byrne, sales manager of the Lion Oil Refining Co., has resigned his position, effective August 1. He has been connected with the company for the past six years. He has not announced his plans for the future.

W. H. Reed, formerly in charge of the Lion Oil Co., of Mississippi, with headquarters at Jackson, Miss., will succeed Mr. O'Byrne. He has been connected with the sale of petroleum products in Southern States for several years. He formerly lived in New Orleans. His headquarters will be at El Dorado, Ark.

NEW HYDROGENATION UNIT

The Humble Oil & Refining Co. will install a unit of the hydrogenation process at its Baytown, Tex., refinery, according to an announcement of company officials. The unit will involve an expenditure of $2,500,000. The unit will be similar to those recently announced for the Bayway, N. J., refinery of the Standard Oil Co. of New Jersey and the Baton Rouge, La., refinery of the Standard Oil Co. of Louisiana.

CLOSE SALES OFFICE

CHICAGO, July 20.—The sales office which has been maintained by the Producers & Refiners Corp., of Independence, Kans., in the McCormick Building, Michigan Avenue, Chicago, has been closed and the entire staff transferred to the main office at Independence, Kans.

FARRELL WITH M'KEE

J. L. Farrell, who was assistant superintendent of the Parco, Wyo., refinery of the Producers & Refiners Corp., has left the company and is now with Arthur G. McKee & Co. of Cleveland, Ohio.

EXPLOSION RESULTS IN HEAVY LOSS AT PLANT

OIL CITY, Pa., July 19.—Damage estimated at $200,000 resulted from an explosion in the filter house and "bone burning" building of the Continental Refining Co. yesterday at the company's refinery, located between this city and Rouseville. Several employes sustained minor injuries due to the explosion, which was followed by a fire which was not finally extinguished until late today.

The cause of the explosion is unknown. The filter house was recently rebuilt and contained modern equipment. In addition to the equipment and buildings, a large quantity of lubricating oil was burned. The office building, which adjoins the filter house, was damaged.

A. F. Anderton, president and general manager of the company, announced today that the plant would resume operations with the exception of the filter house. The filter house and other buildings will be rebuilt as soon as possible.

ONE KILLED IN EXPLOSION

MUSKEGON, Mich., July 20.—The Pan American Petroleum Co. tanker "Panoil" was damaged to the extent of about $40,000 this week when one compartment full of Dundee crude oil exploded, killing one man, seriously burning three others and practically destroying quarters at the stern of the $200,000 steel vessel.

Static electricity was blamed by government inspectors for the explosion and fire. Harry Soderstrom, 32 years old, of East Lake, Manistee County, Michigan, second assistant engineer of the tanker, died of burns within 48 hours after the accident, which happened as two men were gauging the last compartment of crude oil before the ship was to leave the Dixie Pipe Line Co. dock at the east end of Muskegon Lake for Indiana Harbor, the port of Whiting, Ind.

STANDARD OF PENNSYLVANIA

The Standard Oil Co. of Pennsylvania, a subsidiary of the Standard Oil Co. of New Jersey, has purchased a site on the Allegheny River at Pittsburgh for the construction of a large bulk station. The station will have facilities for compounding lubricating oils and greases.

A wharf will be built along the river to facilitate distribution at points adjoining the river. The building of the large station is another step in the program of the Standard company to expand its distributing facilities in the principal consuming centers of Pennsylvania. Filling stations will be built in the Pittsburgh territory.

ATLANTIC BUYS JOBBER

NEW YORK, July 20.—Atlantic Refining Co. has purchased the eight bulk stations and 70 retail stations of the Mohassey Bros. Oil Corp. with headquarters at Corning, N. Y.

The business taken over by the Atlantic Refining is reported to involve more than 500,000 gallons of gasoline per year, and the deal is believed to be the forerunner of general expansion by Atlantic Refining in New York territory.

ANNUAL SUMMER FROLIC

CHICAGO, July 20.—The annual summer frolic of the Illinois Petroleum Marketers Association will be held on August 10 at Soangetaha Country Club, Galesburg, Ill. All members of the trade will be welcome, according to an announcement received from E. R. Kennedy, president.

CHICAGO GASOLINE MARKET STILL QUIET

(Continued from Page 225)

writing. According to reports in export marketing circles, there were one or two inquiries from France in the market for late August shipment, but none of this business has been closed as yet. The trade is watching with a great deal of interest the situation abroad, where a committee representing the export association is carrying on a series of conferences with leaders of the European oil industry on the problem of Gulf gasoline export quotations and other questions. As a result of the strong opposition which has developed both here and abroad, as well as the easier domestic situation, the trade is not looking for any early increase in the export gasoline price.

Kerosene has also shared in the general quiet this week. A moderate demand for illuminating oil in small lots has been witnessed, but nothing in the way of cargo business has developed.

Lub oil sales for shipment abroad have been slow, but because of the quiet which has prevailed for the past few weeks, and the generally lower price basis now prevailing, operators are looking for an early revival in interest on the part of foreign buyers of the product.

Sales of paraffin wax and petrolatum for shipment abroad have been along quiet routine lines throughout the week, the easier price basis prevailing on both products having failed to stimulate demand to any appreciable degree.

Foreign sales of gas and fuel oils have dropped off and these oils have been in quiet position in export market circles throughout the week.

Some interest is being shown in foreign trade circles over the possible effect upon export sales of American refined products to the Far East in the event that the dispute between the Chinese and Soviet governments does not result in an amicable settlement.

Petroleum Exports

The following table shows principal exports of refined petroleum products from New York during the past three weeks (all figures in gallons unless otherwise noted):

	Week ended		
	July 13	July 6	June 29
Gasoline	38,000	205,000	485,200
Naphtha	532,700	2,000	3,568,000
Kerosene	54,000	33,000	40,500
Fuel oil	8,000	169,900	60,500
Lubricating oil	2,889,400	1,820,800	2,206,400
Petroleum, ref.	1,118,200	274,400	1,003,200
	Pounds		
Petrolatum	111,300	.....	.....
Paraffin wax	1,381,500	1,902,400	814,000
Refined	.....	265,000	382,000
Scale	559,000	437,000	101,000
Lub. grease	1,445,800	556,400	601,400

Imports

Imports of crude and refined oils at the principal United States ports for the week ended July 13 totaled 2,107,000 bbls., a daily average of 301,000 bbls., compared with 2,112,000 bbls., a daily average of 301,714 bbls. for the previous week and a daily average of 280,821 bbls. for the four weeks ended July 13. Details follow (barrels of 42 gallons):

	Bbls.
At Atlantic Coast Ports—	
Baltimore	436,000
Boston	158,000
New York	740,000
Philadelphia	314,000
Others	294,000
Total	1,942,000
Daily average	277,429
At Gulf Coast Ports—	
Galveston district	66,000
New Orleans and Baton Rouge	98,000
Tampa	1,000
Total	165,000
Daily average	23,571
At all United States ports—	
Total	2,107,000
Daily average	301,000
Daily average four weeks	280,821

California Oil Receipts

Receipts of California crude and refined oils at Atlantic and Gulf Coast ports for the week ended July 13 totaled 622,000 bbls., a daily average of 88,857 bbls., against 710,000 bbls., a daily average of 101,429 bbls. for the previous week and a daily average of 82,429 bbls. for the four weeks ended July 13. Details follow (barrels of 42 gallons):

	Bbls.
At Atlantic Coast ports—	
Baltimore	207,000
New York	95,000
Philadelphia	244,000
Others	76,000
Total	622,000
Daily average	88,857
At Gulf Coast ports—none.	
At Atlantic and Gulf Coast ports—	
Total	622,000
Daily average	88,857
Daily average four weeks	82,429

Distribution of total California oil receipts is as follows:

Crude	95,000
Gasoline	382,000
Kerosene distillate	76,000
Lubricants	69,000

The receipts of 69,000 bbls. of California lubricating oils during the week marked the first arrivals of this class of refined products for the year thus far.

SIGNIFICANCE OF THE KETTLEMAN AGREEMENT

(Continued from Page 57)

tribute to the portion shown on the accompanying Kettleman Hills map. Production secured in the Kettleman Hills is generally supposed to be from the Vaqueros (lower Miocene), but is now believed to be higher than this and is probably Temblor (middle Miocene). The productive limits of Kettleman Hills are still conjectural and will remain so for some time to come in view of the new curtailment program. A general idea of the trend and possible productive acreage may be gained by referring to the accompanying map of Kettleman Hills, showing the upper Mulinia fossil zone as outlined in Bulletin 398 of the United States Geological Survey. The Mulinia zone as shown indicates the probability that the north dome will be approximately one mile in width at the widest point.

It might not be amiss to mention that the Kettleman Hills anticline extends southeastward from Coalinga to Los Hills, a distance of approximately 35 miles, and contains three definite structures. The north dome extends along the axis in the northern portion of the hills for approximately 10 miles, while the middle dome extends along the strike of the hills for about 5 miles. The south dome, which, like the north, has almost perfect closure, looks favorable for ultimate development of production, as the Bolsa Chica Oil Co. encountered oil in the Etchegoin Jacalitos formation (Pliocene-Miocene) a few years ago at shallow depths. The north dome has a broad flat crest approximately 10 miles long and has average moderate dips on the flanks between 20 and 30 degrees. Only the north dome at Kettleman Hills has been proven productive up to the present, but it would seem logical to assume that at least one of the other two will likewise be found productive.

Geological Mapping

Geological mapping of the Kettleman Hills anticline differ according to the interpretation of various geologists. The northern part of the south dome can be traced quite distinctly, but the break between the north and middle domes is not easily discernible, and the estimated probable productive limits are therefore subject to variation, depending upon each individual interpretation. Roughly, about 3,000 acres have already been proven up as possibly productive in the north dome, but this should be greatly increased by subsequent development. Developments up to the present indicate the north dome will be by far the largest single structure ever opened up in California, and if all three domes are ultimately found productive the major Kettleman Hills anticline may perhaps yield more oil and gas than the Newport Beverly Sheer zone, along which are located Long Beach, Dominguez, Rosecrans, Huntington Beach, Potrero; Seal Beach, Inglewood, Newport and Beverly Fields of Los Angeles Basin. There were 30 strings of tools in operation in the Kettleman Hills Field at the close of June, a large part of which would be finished within several months under ordinary conditions if no restriction was placed on productive activities. The Standard is by far the largest single operator with 14 strings of tools in operation, due to its enormous fee holdings which were acquired in the Pacific Oil Co. merger a few years ago. The Standard owns every alternate 640 acres in fee and should benefit more than any other concern in the development of Kettleman Hills. The Marland Oil Co. also holds extensive acreage in the Kettleman Hills, and a check indicates that its leases in the north dome are even superior to the holdings of the Standard from a structural standpoint, as they are located right along the projected axis. The Marland's first completion in this field should be on production shortly.

WHITE STAR REFINERY IS NOW OPERATING

(Continued from Page 62)

lation unit—are removed from the fractionator and are first passed to two Gray towers for further refining in the vapor stage. These Gray towers have been operated successfully with several rerun operations. They either eliminate or greatly reduce all chemical treating of the finished gasoline. The impurities are removed through contact with fuller's earth in the towers giving a treatment in which losses are reduced when compared with the usual chemical methods.

The treatment is selective in that the aromatic hydrocarbons now desired in motor fuels to aid the antiknock rating of the finished gasoline are not removed as in chemical treatment. This is especially desirable at the White Star plant as the company is a licensed manufacturer and seller of Ethyl Gasoline. The Gray towers tend to reduce the quantity of tetraethyl lead required in the preparation of the Ethyl Gasoline.

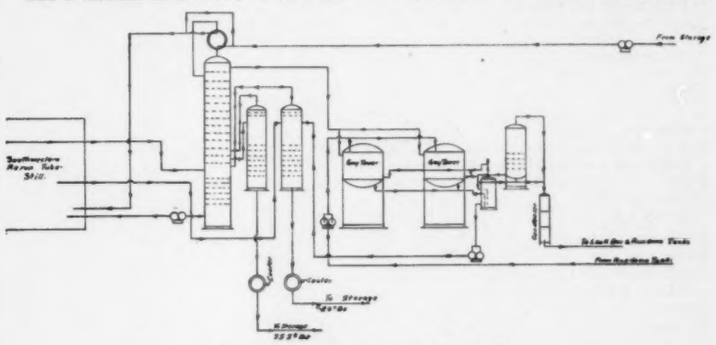


Diagram 2—Flow chart of rerun still.

The Gray tower installation was designed so that any heavy condensate from the main towers and knock-out towers is returned to an auxiliary flash tower where the condensate is stripped of the light ends and returned to the rectifying column. This operation is shown in the accompanying chart.

As in the case of the crude stills the rerun still has two flash towers which supplement the work of the main tower. The main tower is 7 feet by 42 feet and the smaller flash towers 4 feet by 16 feet. In the first flash tower a stream from the main tower is flashed, the light ends being returned to the tower and the residue, which is a distillate suitable for furnace oil or cracking stock, is removed.

The second tower is the flashing medium for the residue which is removed from the base of the main evaporator. This residue is first returned to the furnace where it is passed through several tube sections. It is then discharged above the stripping sections of the flash tower. The light vapors pass to the fractionator and the heavy residue is removed from the base of the tower.

Completes Program

The building of the Detroit refinery completes a program which H. B. Earhart, president, and other officials of the company has had under consideration for some time. The White Star company, under Mr. Earhart's direction, within a period of 17 years has expanded so that it is now one of the large independent refining and marketing organizations of the oil industry.

Associated with Mr. Earhart in the management of the company are three vice presidents. J. B. Edwards is vice president in charge of manufacturing and was in charge of construction of the new refinery. H. A. Coffin is vice president in charge of tank car sales, and L. R. Hunter vice president in charge of bulk station and service station operation. C. B. McCullough is secretary of the company and W. V. Butler treasurer.

RAILROADS ADVERTISE PETROLEUM EXPOSITION

Representatives of the leading railroads in all parts of the United States and Canada at a meeting in Tulsa July 20 promised co-operation in rail service to the International Petroleum Exposition and Congress to be held in Tulsa October 5-12. The meeting was held under the auspices of the Special Train Committee of the exposition of which A. F. Winn, traffic manager of the Skelly Oil Co., is chairman.

According to plans outlined at the meeting, the railroads will start advertising immediately the Exposition and Congress. Posters and other advertising matter will be used. All railroads are offering special low rates on return trips to the Exposition.

The railroad men were guests of the Tulsa Chamber of Commerce at a luncheon on Friday at which Mr. Winn presided as toastmaster. The guests visited the exposition grounds in the afternoon where entertainment was provided by a committee of which B. E. Horrigan of Tulsa was chairman.

PENN MEX GETS LARGE WELL

The Penn Mex Fuel Co. has completed No. 33 on the Paso Real tract in Mexico, and reported good for 10,000 bbls. a day. The oil is 33 gravity, while other wells are 24 gravity.

Classified Wants

(Continued from Page 223)

FOR SALE—ANTIQUES

FOR SALE at sacrifice the finest collection of horns, antlers, curios, relics and photos. Consisting only of the finest and rarest specimens from the present time to over 300 years back. Best opportunity in the world to procure decoration fit to grace the finest office, den or parlor. Historical, interesting and instructive. Leal Bertillion, Mineola, Tex.

WANTED

WANTED—Price on gasoline in car load lots delivered Paducah, Ky. O. P. Leigh & Co., P.O. Box 37, Paducah, Ky.

GEOLOGISTS

OIL LOCATED before drilling. Geophysical method. Toggodometer Instrument; take pay in oil. No oil, no pay. Except traveling and testing expenses. 95 per cent accuracy. O. P. Coffin, Caddo, Tex.

VERTICAL MAGNETOMETER SURVEYS
Made and Interpreted
By H. L. McIntire and F. L. Rookstool.
Phone 1071-W, 414 N. Peters,
Norman, Okla.

REFINERY AND CRUDE PRICES

Quotations on refined products are for interstate or export movement unless otherwise noted.

GASOLINE AND NAPHTHA

	July 23		July 16		July 9	
OKLAHOMA (Group 3)—						
50-52 450 endpoint	.07¾	.08¼	.08	.08½	.08¼	.08½
56-58 450 endpoint	.07¼	.07½	.07¾	.08	.08	.08¼
*58-60 437 endpoint (U. S. Motor)	.0805		.0853		.0895	
*60-62 437 endpoint	.0819		†.08¼	.08½	.095	
*60-62 400 endpoint	.0847		.0883		.095	
*64-66 375 endpoint	.08		.0925		†.09¼	.09½
68-70 360 endpoint	.08¼	.08¾	.08¾	.09	.09¼	.09¾
64-66 437 endpoint (blend)	.07¾	.08	.08	.08¼	.08¼	.08½
NORTH TEXAS—						
56-58 450 endpoint	.07½		.07¾	.08	.08	.08¼
58-60 450 endpoint	.07½	.07¾	.07¾	.08	.08	.08¼
58-60 437 endpoint (U. S. Motor)	.07½	.07⅝	.07¾	.08¼	.08⅛	.08½
60-62 400 endpoint	.07¾	.08	.08	.08¼	.08¼	.08½
64-66 390 endpoint	.08	.08¼	.08¼	.08⅜	.08½	.08⅝
64-66 375 endpoint	.08	.08½	.08½	.08⅝	.08⅝	.08⅞
68-70 360 endpoint	.08¼	.08½	.08½	.08¾	.08¾	.09
64-66 437 endpoint (blend)	.07½	.07¾	.07¾	.08	.08¼	.08½
***NORTH LOUISIANA—**						
58-60 437 endpoint (U. S. Motor)	.08½	.09	.09¼	.09½	.09¼	.09½
***ARKANSAS—**						
58-60 437 endpoint (U. S. Motor)	.08½	.09	.09¼	.09½	.09¼	.09½
PENNSYLVANIA—						
52-54 Naphtha	.09	.09½	.09	.09½	.09	.09½
54-56 Naphtha	.09½	.09¾	.09½	.09¾	.09½	.09¾
58-60 Gasoline	.09¾	.10	.10	.10¼	.10	.10¼
60 Gasoline	.10	.10¼	.10¼	.10½	.10¼	.10½
62 Gasoline	.10¼	.10½	.10½	.11	.10½	.11
64 Gasoline	.10¼	.10½	.11	.11¼	.11	.11¼
68-70 350 endpoint gasoline	.12½	.13	.12	.12½	.12	.12½
CALIFORNIA—						
58-60 437 endpoint (U. S. Motor) domestic	.09	.10	.09	.10	.09	.10
CHICAGO DISTRICT (Based on Group 3)—						
50-52 450 endpoint (Naphtha)	.07½	.08	.08	.08½	.08¼	.08½
56-58 450 endpoint	.07½		.07¾	.08	.08¼	.08½
58-60 437 endpoint (U. S. Motor)	.07½	.08	.08	.08½	.08¼	.08¾
60-62 400 endpoint	.08	.08¼	.08⅜	.08¾	.08⅜	.08¾
64-66 375 endpoint	.08¼	.08½	.08¾	.09¼	.08⅝	.09
68-70 360 endpoint	.08½	.08¾	.08⅞	.09⅜	.08¾	.09
64-66 437 endpoint (blend)	.07¾	.08	.08⅛	.08½	.08⅛	.08⅝
GULF COAST (Export)—						
58-60 (U. S. Motor)	.08½		.08½		.08½	
60-62 400 endpoint	.09½		.09½		.09½	
61-63 390 endpoint	.09¾		.09¾		.09¾	
64-66 375 endpoint	.10		.10		.10	

*Weighted average prices July 22, 15 and 8, as reported by representative refiners. Sales to jobbers only. †No sales reported. Price indicated is general market.

*Louisiana, Arkansas, Mississippi and East Texas delivery.

NATURAL GASOLINE

	July 23		July 16		July 9	
OKLAHOMA (Group 3)—						
Grade A, 72-79.9, 375 e.p., rec. 90%	.06¼	.06½	.06⅛	.06¼	.07	.07¼
Grade AA, 80-87.9, 375 e.p., rec. 90%	.06¼	.06½	.06⅛	.06¼	.07	.07¼
Grade B, 76-83.9, 375 e.p., rec. 85%	.05¾		.05½	.05¾	.06¼	
Grade BB, 84.92, 375 e.p., rec. 85%	.05¾		.05½	.05¾	.06¼	
Grade C, 80-90, 375 e.p., rec. 78%	.05¾		.05½	.05¾	.06¼	
NORTH TEXAS—						
Grade A, 72-79.9, 375 e.p., rec. 90%	.06¼	.06½	.06⅛	.06¼	.07	.07¼
Grade AA, 80-87.9, 375 e.p., rec. 90%	.06¼	.06½	.06⅛	.06¼	.07	.07¼
Grade B, 76-83.9, 375 e.p., rec. 85%	.05¾		.05½	.05¾	.06¼	
Grade BB, 84-92, 375 e.p., rec. 85%	.05¾		.05½	.05¾	.06¼	
Grade C, 80-90, 375 e.p., rec. 78%	.05¾		.05½	.05¾	.06¼	
NORTH LOUISIANA—						
Grade AA, 80-87, 375 e.p., rec. 90%	.06½		.06½		.07¼	.07⅜
Grade BB, 84-92, 375 e.p., rec. 85%	.06	.06¼	.06	.06¼	.06½	.06¾
Grade C, 80-90, 375 e.p., rec. 78%	.06	.06¼	.06	.06¼	.06½	.06¾
CALIFORNIA—						
75-78 375-390 endpoint	.08¾	.09¼	.08¾	.09¼	.09	.09½
CHICAGO DISTRICT (Based on Group 3)—						
Grade A, 72-79.9, 375 e.p., rec. 90%	.06¼	.06½	.06	.06¼	.07	.07¼
Grade AA, 80-87.9, 375 e.p., rec. 90%	.06¼	.06½	.06	.06¼	.07	.07¼
Grade B, 76-83.9, 375 e.p., rec. 85%	.05¾	.06	.05½	.05¾	.06¼	
Grade BB, 84-92, 375 e.p., rec. 85%	.05¾	.06	.05½	.05¾	.06¼	
Grade C, 80-90, 375 e.p., rec. 78%	.05¾		.05½	.05¾	.06¼	

BURNING OIL

	July 23		July 16		July 9	
OKLAHOMA (Group 3)—						
41-43 water white kerosene	.05¼	.05½	.05¼	.05½	.05½	.05¾
42-44 water white kerosene	.05¾	.06	.05⅞	.06⅛	.06	.06⅛
***NORTH LOUISIANA—**						
41-43 water white kerosene	.05¾	.06¼	.06¼	.06½	.06½	.06¾
NORTH TEXAS—						
41-43 water white kerosene	.05	.05⅛	.05	.05¼	.05¼	.05½
40-42 water white kerosene	.04⅞	.05	.04⅞	.05	.05⅛	.05¼
***ARKANSAS—**						
41-43 water white kerosene	.05¾	.06	.06½	.06¾	.06½	.06¾
PENNSYLVANIA—						
43 Kerosene prime white	.06	.06⅛	.06	.06⅛	.06	.06¼
45 Kerosene water white	.06⅛	.06¼	.06	.06¼	.06⅛	.06⅜
46 Kerosene water white	.06½	.06¾	.06½	.06¾	.06½	.06¾
47 Kerosene water white	.06¾	.07	.06¾	.07	.06¾	.07
300 Mineral Seal	.06¾	.07	.07¼	.07½	.07¼	.07½
CALIFORNIA—						
38-40 water white Kero. (high-burning test)	.05½	.06	.05½	.06	.05¾	.06½
Engine distillate, 43-44, 445 endpoint	.08	.08¾	.08	.08¾	.08	.08¾
Engine distillate, 42-44, 480 endpoint	.07½	.08¼	.07½	.08¼	.07½	.08¼
CHICAGO DISTRICT (Based on Group 3)—						
41-43 water white kerosene	.05¼	.05½	.05½	.05¾	.05½	.05¾
42-44 water white kerosene	.05¾	.06	.06	.06⅛	.06	.06⅛
GULF COAST (Export)—						
41-43 prime white	.07		.07		.07	
41-43 water white	.08		.08		.08	

*Louisiana, Arkansas, Mississippi and East Texas delivery.

FUEL OIL

	July 23		July 16		July 9	
OKLAHOMA (Group 3)—						
Below 18 Fuel Oil, per bbl.	.45	.50	.45	.50	.45	.50
18-22 Fuel Oil, per bbl.	.50	.55	.50	.55	.50	.55
20-22 Fuel Oil, per bbl.	.55	.60	.55	.60	.55	.60
22-26 Fuel Oil, per bbl.	.60	.65	.60	.65	.60	.65
24-26 Fuel Oil, per bbl.	.65	.70	.65	.70	.65	.70
26-30 Fuel Oil, per bbl.	.77½	.82½	.77½	.82½	.77½	.82½
28-30 Fuel Oil, per bbl. (industrial)	.80	.85	.80	.85	.85	.90
32-36 Gas Oil (industrial)	.02⅜	.02½	.02⅜	.02½	.02⅜	.02½
32-36 Gas Oil (straw color)	.02½	.02¾	.02½	.02¾	.02½	.02¾
36-38 Distillate	.03	.03⅛	.03	.03⅛	.03	.03⅛
38-40 Straw Distillate	.03¼	.03½	.03¼	.03½	.03¼	.03½
NORTH TEXAS—						
Below 20 Fuel Oil	.60	.65	.60	.65	.60	.65
24-26 Fuel Oil, per bbl.	.65	.70	.65	.70	.65	.70
32-36 Gas Oil (straw)	.02½	.02⅝	.02⅜	.02½	.02⅜	.02½
38-40 Straw Distillate	.03¼		.03¼		.03¼	
***NORTH LOUISIANA—**						
18-20 Fuel Oil, per bbl.	.75		.75		.70	.80
30-32 Gas Oil	.02½	.02¾	.02¾	.03	.02¾	.03
***ARKANSAS—**						
33-36 Distillate	.03	.03¼	.03	.03¼	.03	.03¼
30-32 Gas Oil	.02¾	.03	.02¾	.03	.02¾	.03
16-22 Refinery Fuel Oil, per bbl.	.75		.75		.70	.80
GULF COAST (South Texas)—						
Gas Oil	.04		.04		.04	
Bunker C Fuel (cargo lots), per bbl.	.70	.80	.70	.80	.70	.75
Bunker C Fuel (small lots)	.90	.95	.90	.95	.90	.95
PENNSYLVANIA—						
30-34 Fuel Oil	.04⅛	.04¼	.04⅛	.04⅜	.04⅛	.04⅜
36-40 Fuel Oil	.04⅜	.04½	.04½	.04¾	.04½	.04¾
CALIFORNIA—						
33-36 Distillate	.04	.04½	.04	.04½	.04	.04½
26-32 Distillate	.03	.03½	.03	.03½	.03	.03½
15-20 Fuel Oil, Bunker (at tide water)	.65	.85	.65	.85	.65	.85
15-20 Fuel Oil (cargo lots), per bbl.	.70	.85	.70	.85	.70	.85
27 plus Diesel, per bbl.	.90	1.05	.90	1.05	.90	1.05
CHICAGO DISTRICT (Based on Group 3)—						
22-26 Fuel Oil, per bbl.	.62½	.67½	.62½	.67½	.62½	.67½
18-22 Fuel Oil, per bbl.	.50	.55	.47½	.52½	.47½	.52½
28-30 Fuel Oil	.90	.95	.90	.95	.90	.95
32-36 Gas Oil (zero)	.02⅝	.02¾	.02⅝	.02¾	.02⅝	.02¾
32-36 Gas Oil (industrial)	.02⅝	.02⅝	.02⅜	.02⅝	.02⅜	.02⅝
36-38 Distillate	.03¼	.03⅜	.03¼	.03⅜	.03¼	.03⅜
38-40 Straw Distillate	.03⅜	.03½	.03¾	.03½	.03⅜	.03½

*Louisiana, Arkansas, Mississippi, East Texas delivery.

LUBRICATING OIL AND WAX

	July 23		July 16		July 9	
OKLAHOMA (Group 3)—						
100 vis., 2 color, 20-25 cold test	.06¾	.07	.06¾	.07	.06¾	.07
100 vis., 3 color, 20-25 cold test	.05¾	.06	.05¾	.06	.05¾	.06
150 vis., 3 color, 20-25 cold test	.07¾	.08	.07¾	.08	.07¾	.08
150 vis., 4 color, 20-25 cold test	.07¼	.07½	.07¼	.07½	.07¼	.07½
180 vis., 3 color, 23-28 cold test	.09¼	.09½	.09¼	.09½	.09¼	.09½
180 vis., 5 color, 23-28 cold test	.08½	.08¾	.08½	.08¾	.08½	.08¾
180 vis., 5 color, 23-28 cold test	.08½	.08¾	.08½	.08¾	.08½	.08⅞
200 vis., 3 color, 23-28 cold test	.09¾	.10	.09¾	.10	.09¾	.10
200 vis., 4 color, 23-28 cold test	.09¼	.09½	.09¼	.09½	.09¼	.09½
200 vis., 5 color, 23-28 cold test	.08¾	.09	.08¾	.09	.08¾	.09
240 vis., 3 color, 25-30 cold test	.13¼	.13½	.13¼	.13½	.13¼	.13½
240 vis., 4 color, 25-30 cold test	.12¼	.12½	.12¼	.12½	.12¼	.12½
240 vis., 5 color, 25-30 cold test	.11¾	.12	.11¾	.12	.11¾	.12
280 vis., 3 color, 25-30 cold test	.15¾	.16	.15¾	.16	.15¾	.16
280 vis., 4 color, 25-30 cold test	.14¾	.15	.14¾	.15	.14¾	.15
280 vis., 5 color, 25-30 cold test	.13¾	.14	.13¾	.14	.13¾	.14
Cylinder Stocks:						
600, steam refined, light green	.14	.16	.14	.16	.14	.16
600, steam refined, dark green	.13	.14	.13	.14	.13	.14
190-200 vis., D color Bright Stock	.40		.40		.40	
150-160 vis., D color Bright Stock	.35	.36	.36	.36	.35	.36
150-160 vis., E color Bright Stock	.33		.33		.33	
Waxes:						
124-126 White Crude Scale Wax	.02½	.02⅝	.02½	.02⅝	.02½	.02⅝
PENNSYLVANIA—						
34 Neutral	.07½	.07¾	.07½	.07¾	.07½	.07¾
34 Sundebloom	.07¾	.08	.07¾	.08	.07¾	.08
36 Miners Neutral	.07¼	.07½	.07¼	.07½	.07¼	.07½
150, 3 color	.20	.20¼	.20	.20¼	.20	.20¼
180, 3 color	.25	.25½	.25	.25½	.25	.25½
200, 3 color	.27½	.28	.27½	.28	.27½	.28
220, 3 color	.29½	.30	.29½	.30	.29½	.30
600, steam refined	.27½	.28	.27½	.28	.28	.28½
635, steam refined	.31	.32	.31	.32	.31	.32
650, steam refined	.34	.35	.34	.35	.34	.35
600, Pennsylvania Flash	.37	.38	.37	.38	.37	.38
630, Pennsylvania Flash	.40	.40½	.40	.40½	.40	.40½
600, E filtered	.34	.35	.34	.35	.34	.35
600, D filtered	.37	.38	.37	.38	.37	.38
Pennsylvania Bright Stock	.51	.52	.51	.52	.51	.52
*122-124 White Crude Scale Wax	.02¾	.02⅞	.02¾	.02⅞	.02¾	.02⅞
*124-126 White Crude Scale Wax	.02⅞	.03	.02⅞	.03	.02⅞	.03

*At New York.

GULF COAST (South Texas)—						
No. 2 color, 100 vis., pale oil	.06½	.07	.06½	.07	.06½	.07
No. 3 color, 200 vis., pale oil	.09½	.10	.09½	.10	.09½	.10
No. 3 color, 300 vis., pale oil	.10½	.10¾	.10½	.10¾	.10½	.10¾
No. 3½ color, 500 vis., pale oil	.11¾	.12¼	.11¾	.12¼	.11¾	.12¼
No. 4 color, 750 vis., pale oil	.13	.13½	.13	.13½	.13	.13½
No. 5 to 6 color, 200 vis., red oil	.08½	.08¾	.08½	.08¾	.08½	.08¾
No. 5 to 6 color, 300 vis., red oil	.09¾	.10¼	.09¾	.10¼	.09¾	.10¼
No. 5 to 6 color, 500 vis., red oil	.10¾	.11½	.10¾	.11½	.11¼	.11½
No. 5 to 6 color, 750 vis., red oil	.12	.12½	.12½	.13	.12½	.13
No. 2½ color, 200 vis., pale filtered	.11	.12	.11	.12	.11	.12

REFINERY AND CRUDE PRICES

Quotations on refined products are for interstate or export movement unless otherwise noted.

No. 2½ color, 300 vis., pale filtered	.12	.13	.12	.13	.12	.13
No. 2½ color, 500 vis., pale filtered	.14½	.15	.14½	.15	.14½	.15
No. 2½-3 color, 750 vis., pale filtered	.17	.19	.17	.19	.17	.19
CALIFORNIA—						
130 vis., 2½-3 color	.10¼	.10½	.10¼	.10½	.10¼	.10½
200 vis., 2½-3 color	.11½	.11¾	.11½	.11¾	.11½	.11¾
300 vis., 3-3½ color	.13	.13½	.13	.13½	.13	.13½
350 vis., 3½-4 color	.13½	.13¾	.13½	.13¾	.13½	.13¾
400 vis., 3½-4 color	.15	.15½	.15	.15½	.15	.15½
Red Neutral:						
200 vis., 4½-5 color	.11	.11¼	.11	.11¼	.11	.11¼
300 vis., 5-6 color	.12	.12¼	.12	.12¼	.12	.12¼
400 vis., 5-6 color	.13¼	.14	.13¼	.14	.13¼	.14
500 vis., 4½-5 color	.14¼	.15½	.14¼	.15½	.14¼	.15½
500 vis., 5-6½ color	.15	.15¼	.15	.15¼	.15	.15¼
600 vis., 6½ plus color	.16	.16¼	.16	.16¼	.16	.16¼

Note—Bright stocks are not manufactured commercially on the Pacific Coast.

NEW YORK (BAYONNE) REFINERY PRICES

	July 23		July 16		July 9	
Gasoline, U. S. Motor, 58-60, 437	.10	.11	.10	.11	.11	
Kerosene, water white, 41-43	.07¾	.08	.07¾	.08	.07¾	.08
*Fuel Oil, Bunker "C," 14-16, per bbl.	1.05		1.05		1.05	
†Fuel Oil, Diesel, 28-30, per bbl.	2.00		2.00		2.00	
Gas Oil, 32-36 gravity	.05¼		.05¼		.05	.05½
25 pale Paraffin Oil	.10½		.10½		.10½	
28 pale Paraffin Oil	.07¼		.07¼		.07¼	
285 red Paraffin Oil	.11½		.11½		.11½	
250 red Paraffin Oil	.11		.11		.11	
225 red Paraffin Oil	.09½		.09½		.09½	
200 red Paraffin Oil	.09		.09		.09	
Refined Wax:						
120-122 a.m.p., per lb.	.03⅜		.03½		.03½	
125-127 a.m.p., per lb.	.03⅞		.04		.04	
130-132 a.m.p., per lb.	.04⅜		.05		.04¾	
133-135 a.m.p., per lb.	.06		.06		.06	
135-137 a.m.p., per lb.	.06¼		.06⅜		.06⅜	
Petrolatum in barrels, carload lots, per pound:						
Dark green	.019		.02		.02	
Amber	.03⅝		.03½		.03½	
Extra amber	.03⅞		.03¾		.03¾	
Cream	.06⅜		.06½		.06½	
Lily white	.07⅝		.07½		.07½	
Snow white	.08⅜		.08½		.08½	

*Lighterage 5.0 cents a barrel extra. †Lighterage 6.5 cents a barrel extra.

NEW YORK (BAYONNE) EXPORT PRICES

	July 23		July 16	July 9
Kerosene, prime white	.08		.08	.08
Kerosene, water white	.09		.09	.09
600, steam refined cylinder stocks, in bbls.	.33	.37	.36	.38
635, steam refined	.35	.38	.38	.40
650, steam refined	.40	.43	.43	.45
600, Pennsylvania Flash	.47	.48	.48	.48
630, Pennsylvania Flash	.51		.52	.52
600, Warren E.	.42		.43	.43
600, Oil City E	.41		.42	.42
Light 140-150 Bright Stocks	.60		.60	.60
Dark 140-150 Bright Stocks	.59		.59	.59

LOS ANGELES EXPORT PRICES

	July 23		July 16		July 9	
Kerosene, water white	.05	.05½	.05	.05½	.05	.05½
U. S. Motor Gasoline, 53-55, 437 e.p.	.07	.07½	.07	.07½	.07	.07½

CRUDE OIL PRICES

OKLAHOMA, KANSAS, NORTH AND EAST CENTRAL TEXAS

Corsicana heavy (January 11)* ..... .80
Other fields .....See gravity table

*Posted by Magnolia Petroleum Co.

TEXAS PANHANDLE

Gray County, Wheeler County and Carson-Hutchinson Counties—See gravity table.

WEST TEXAS

Iatan* .....Same as North Texas
Crane-Upton-Crockett, Pecos, Winkler, Mitchell, and Glasscock (See gravity table).
Chalk† ..... .65

*Includes Howard County and Westbrook Fields.
†Posted by Humble Oil & Refining Co.

ARKANSAS-NORTH LOUISIANA

Smackover, below 24 gravity (May 20, 1929) .....$ .85
Smackover, 24 gravity and above (May 20, 1929) 1.00
Cotton Valley (Below 36 gravity May 22) ..... .85
Bellevue (May 29, 1929) 1.30
Urania (May 21, 1929) 1.10
East El Dorado (May 22, 1929) ..... .85
Other fields .....See gravity table

Cotton Valley crude above 36 gravity takes same gravity price schedule as shown for North Louisiana and Arkansas crude in Mid-Continent gravity price table.

Note—Smackover, Cotton Valley and Bellevue posted by Standard Oil Co. of Louisiana, and Magnolia Petroleum Co.; Urania posted by Louisiana Oil Refining Corp.; East El Dorado, Magnolia Petroleum Co.

GULF COAST

Grade A (May 20)* $1.30
Grade B .....See gravity table
Jennings, La. (March 14)† 1.05
Saratoga, Batson, Dayton (March 14, 1927)‡ 1.20
Markham (March 14)§ 1.00
High Island (December 14)¶ 1.00

*Humble Oil & Refining Co., The Texas Company, Gulf Pipe Line Co., and Sun Pipe Line Co. †Gulf Pipe Line Co. ‡Sun Pipe Line Co. §The Texas Company. ¶Posted by Gulf Pipe Line Co.

ROCKY MOUNTAIN STATES
Ohio Oil Co.-Midwest Refining Co.
(Effective May 21, 1929)

Rock Creek, Wyo. $1.40
Salt Creek .....See gravity table
Big Muddy 1.43
Grass Creek, heavy (July 27, 1928) ... .90
Grass Creek, light 1.65
Mule Creek 1.20
Elk Basin 1.65
Lance Creek 1.63
Poison Spider (March 14, 1927) 1.00
Notches (March 14, 1927) ..... .65
Rex Lake (February 22) 1.10
Osage 1.65
Lost Soldier (contract, May 22) 1.05
Hamilton Dome (March 14, 1927) ..... .85
Pedro 1.25
Greybull 1.65
Four Bear ..... .85
Cat Creek (Montana) (July 27, 1928).. 1.48
Sunburst (Montana) (May 23, 1929) ... 1.75
Torchlight 1.65
Hogback (New Mexico) 1.70

Note—Salt Creek, Osage, Cat Creek, Greybull and Hogback posted by Midwest Refining Co., and the remainder by the Ohio Oil Co. Both companies post Grass Creek light and Elk Basin.

SOUTH CENTRAL AND SOUTH-WESTERN TEXAS

Luling (May 2)* .....$ .90
Mirando (May 20, 1929)† ..... .90
Salt Flat (May 20, 1929)§ 1.25

(Continued on Page 232)

CRUDE OIL GRAVITY TABLE

Gravity—	Okla., Kans. N. C. Tex. 1	No. La. and Arkansas 2	Crane, Upton, Crockett, Winkler, Howard, Pecos, Texas crudes, and Lea, N. Mex. 3	Stephens, Ark. 4	Wheeler (Texas Panhandle) 5	Gray County (Texas Panhandle) 6	Carson and Hutchinson (Texas Panhandle) 7	Salt Creek, Wyo. 8	Grade B & Light Crude (G. Coast) 9	Somerset (South Central Texas) 10
24 and above	....	....	....	....	....	....	....	....	....	....
Below 24	....	....	....	....	....	....	....	....	....	....
Below 25	.85	....	.70	....	....	....	....	....	1.15	....
25 to 25.9	.90	....	.74	....	....	....	....	....	1.18	....
26 to 26.9	.95	....	.78	....	....	....	....	....	1.21	....
27 to 27.9	1.00	....	.82	....	....	....	....	....	1.24	....
Below 28	....	1.00	....	.90	.90	.90	.90	....	....	....
28 to 28.9	1.05	1.05	.86	.94	.90	.90	.90	....	1.27	....
29 to 29.9	1.10	1.10	.90	.98	.90	.95	.90	1.10	1.30	....
30 to 30.9	1.15	1.15	.94	1.02	.95	1.00	.90	1.15	1.33	....
31 to 31.9	1.20	1.20	.98	1.06	1.00	1.05	.90	1.20	1.36	....
32 to 32.9	1.25	1.25	1.02	1.10	1.05	1.10	.95	1.25	1.39	1.05
33 to 33.9	1.30	1.30	1.06	....	1.10	1.15	1.00	1.30	1.42	1.07
34 to 34.9	1.35	1.35	1.10	....	1.15	1.20	1.05	1.35	1.45	1.09
35 to 35.9	1.40	1.40	1.14	....	1.20	1.25	1.10	1.40	1.48	1.11
36 to 36.9	1.45	1.45	1.18	....	1.25	1.30	1.15	1.45	....	1.13
37 to 37.9	1.50	1.50	....	....	1.30	1.35	1.20	1.50	....	1.15
38 to 38.9	1.55	1.55	....	....	1.35	1.40	1.25	....	....	1.17
39 to 39.9	1.60	1.60	....	....	1.40	1.45	1.30	....	....	....
40 to 40.9	1.65	1.65	....	....	1.45	1.50	1.35	....	....	....
41 to 41.9	1.70	1.70	....	....	1.50	1.55	1.40	....	....	....
42 to 42.9	1.75	1.75	....	....	1.55	1.60	1.45	....	....	....
43 to 43.9	1.80	1.80	....	....	1.60	1.65	1.50	....	....	....
44 and above	1.85	1.85	....	....	1.65	1.70	1.55	....	....	....

Column 1, Note—Magnolia Petroleum Co. posted schedule May 20, 1929, making price below 26 gravity 70 cents per barrel, 26-26.9 gravity 75 cents, 27-27.9 gravity 85 cents, 28-28.9 gravity 90 cents, 29-29.9 gravity 95 cents, 30-30.9 gravity $1.05, and 31.31.9 gravity $1.15, with balance of the price schedule as shown above.

Oklahoma—Carter Oil Co., Prairie Oil & Gas Co., Sinclair Oil & Gas Co., Gypsy Oil Co., The Texas Company, May 20.

North Central Texas—Including Ranger, Mexia, Powell, Richland, Wortham, Lytton Springs, Currie, Nocona and Moran, Prairie Oil & Gas Co., Sinclair Oil Refining Co., Humble Oil & Refining Co., The Texas Company and Gulf Refining Co., May 20.

Kansas—Prairie, Sinclair, The Texas Company and Carter, May 20.

Column 2—Arkansas and North Louisiana—[Caddo, Bull Bayou, Crichton, Cotton Valley, above 36 gravity, DeSoto, Haynesville, Homer and El Dorado only] May 22, Standard Oil Co. of Louisiana, Louisiana Oil Refining Corp., Gulf Refining Co., Magnolia Petroleum Co., schedule applies to Pine Island, Haynesville, Bull Bayou, Louisiana and El Dorado, Ark., light crude.

Column 3—Humble Oil & Refining Co. and Magnolia Petroleum Co., May 20.

Column 4—Atlantic Oil Producing Co., Prairie Oil & Gas Co., Louisiana Oil & Refining Corp., May 21, 1929.

Columns 5, 6 and 7—Humble Oil & Refining Co., Magnolia Petroleum Co., May 20, 1929.

Column 8—Midwest Refining Co., May 20, 1929. All crude over 37 gravity $1.50 per barrel.

Column 9—Humble Oil & Refining Co., May 20, 1929 (schedule ends 35 and above).

Column 10—Grayburg Pipe Line Co. and Pioneer Oil & Refining Co., April 7.

CALIFORNIA CRUDE OIL PRICES

Standard Oil Co.-Union Oil Co. (Effective January 18, 1929)

Gravity—	Salt Lake, Potrero, Newport, Long Beach, Summerland, Fullerton, Los Angeles, Richfield, Torrance, Olinda-Brea, Alamitos Heights, Signal Hill, Seal Beach, Huntington Beach, Athens, Inglewood, Rosecrans-Dominguez, Watsonville 1	Whittier, La Habra, Coyote Hills 2	Midway-Sunset, Elk Hills, Lost Hills, Belridge, Buena Vista Hills 3	Montebello 4	Santa Fe Springs 5	Santa Maria, Coalinga 6	Wheeler Ridge, Fruitvale 7	Orcutt Ventura, Rincon. 8	Ventura Ave. 9	Elwood Terrace 10
14 to 14.9	.70	.70	.50	.70	....	.50	.50	.65	.70	....
15 to 15.9	.70	.70	.50	.70	....	.50	.50	.65	.70	....
16 to 16.9	.70	.70	.50	.70	....	.50	.50	.65	.70	....
17 to 17.9	.70	.70	.50	.70	....	.50	.50	.65	.70	....
18 to 18.9	.75	.75	.56	.70	....	.56	.56	.70	.75	....
19 to 19.9	.80	.80	.62	.75	....	.62	.62	.70	.80	....
20 to 20.9	.85	.84	.68	.80	....	.68	.68	.70	.85	....
21 to 21.9	.89	.88	.74	.85	.89	.74	.74	.86	.86	....
22 to 22.9	.93	.91	.80	.90	.92	.80	.80	.87	.87	....
23 to 23.9	.97	.94	.85	.95	.95	.85	.85	.90	.90	....
24 to 24.9	1.01	.97	.90	.98	.98	.88	.88	.94	.94	....
25 to 25.9	1.05	1.00	.95	1.01	1.01	.91	.91	.98	.98	....
26 to 26.9	1.09	1.04	1.00	1.04	1.04	.94	.94	1.02	1.02	....
27 to 27.9	1.13	1.08	1.05	1.07	1.07	.98	.97	....	1.06	....
28 to 28.9	1.17	1.12	1.10	1.10	1.10	1.02	....	....	1.10	....
29 to 29.9	1.21	1.16	1.16	1.13	1.15	1.06	....	....	1.14	....
30 to 30.9	1.25	1.20	1.22	1.16	1.20	1.10	....	....	1.18	....
31 to 31.9	1.30	....	1.28	....	1.25	1.14	....	....	1.22	....
32 to 32.9	1.35	....	1.34	....	1.30	1.18	....	....	1.28	....
33 to 33.9	1.41	....	1.40	....	1.35	1.22	....	....	1.24	....
34 to 34.9	1.47	....	1.46	....	1.40	1.26	....	....	1.40	1.16
35 to 35.9	1.53	....	....	....	1.45	1.30	....	....	1.46	1.22
36 to 36.9	1.59	....	....	....	1.50	....	....	....	1.52	1.28
37 to 37.9	1.65	....	....	....	1.55	....	....	....	1.58	1.34
38 to 38.9	1.71	....	....	....	1.60	....	....	....	1.64	1.40
39 to 39.9	1.77	....	....	....	1.65	....	....	....	1.70	1.46
40 to 40.9	1.83	....	....	....	....	....	....	....	1.76	1.52
41 to 41.9	1.89	....	....	....	....	....	....	....	1.82	1.58
42 to 42.9	1.95	....	....	....	....	....	....	....	1.88	1.64

Kern River, Newhall-McKittrick, Mount Poso and Round Mountain 11 to 13.9 gravity 45 cents, 14 gravity and above 50 cents, effective October 2, 1929. On December 1, 1928, the Union Oil Co. posted Midway-Sunset, Elk Hills, Buena Vista, Lost Hills and Coalinga crude as follows: 11 to 13.9 gravity at 45 cents, 14 gravity and above 50 cents.

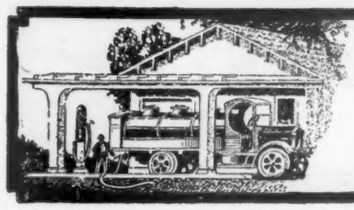
Column 1—Signal Hill, Seal Beach, Huntington Beach and Alamitos Heights crude, 14 to 32.9 gravity, inclusive; Richfield, Olinda-Brea and Fullerton, 14 to 30.9 gravity; Torrance and Inglewood, 14 to 28.9 gravity, Dominguez and Athens-Rosecrans, 24 to 42.9 gravity.

Column 2—Whittier crude, 14 to 22.9 gravity; Coyote Hills, 14 to 30.9 gravity.

Column 3—Kern River, Newhall and McKittrick, 11 to 13.9 gravity; Midway-Sunset, Buena Vista and Elk Hills, 11 to 33.9 gravity; Lost Hills, 11 to 34.9 gravity; oil below 14 gravity posted at 45 cents.

Column 6—Oil below 14 gravity posted at 45 cents.

Columns 8 and 9 posted by Union Oil Co. only.



TANK WAGON MARKETS

Tank wagon quotations for gasoline and kerosene in United States as furnished by the larger marketing concerns July 23.

ALL TANK WAGON AND SERVICE STATION QUOTATIONS INCLUDE TAXES

STANDARD OIL CO. (INDIANA)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Chicago dist.†..	16.0	17.0	...	13.0
Decatur, Ill. ...	16.2	17.2	...	13.1
E. St. Louis ...	15.4	16.4	...	13.2
Joliet	16.4	17.4	...	13.3
Peoria	16.2	17.2	...	13.1
Quincy	16.2	17.2	...	12.9
Davenport, Ia..	19.5	20.5	3.0	13.3
Des Moines ..	19.5	20.5	3.0	13.3
Keokuk	19.5	20.5	3.0	13.3
Sioux City	19.1	20.1	3.0	12.9
Duluth, Minn..	20.5	21.5	3.0	13.9
Mankato	20.1	21.1	3.0	13.7
Minneapolis ...	20.2	21.2	3.0	13.9
LaCrosse, Wis..	19.2	20.2	3.0	14.0
Milwaukee	18.1	19.1	2.0	12.9
Madison	18.3	19.3	2.0	13.1
Detroit, Mich..	19.8	20.8	3.0	14.7
Grand Rapids..	19.7	20.7	3.0	14.6
Saginaw	19.9	20.9	3.0	14.8
Evansville, Ind.	20.0	21.0	4.0	14.0
Fort Wayne ..	20.4	21.4	4.0	14.4
Indianapolis ..	20.2	21.2	4.0	14.2
South Bend ...	20.4	21.4	4.0	14.4
Fargo, N. D...	21.9	22.9	3.0	15.9
Huron, S. D. ..	21.3	22.3	4.0	14.7
Sioux Falls ...	20.1	21.1	4.0	14.4
K. C., Mo.* ...	18.9	19.9	3.0	11.6
Springfield* ...	18.8	19.8	3.0	12.5
St. Louis*	17.9	18.9	2.5	12.3
St. Joseph	18.5	19.5	3.0	12.2
Wichita, Kans..	17.8	18 8	3 0	11 8
Bartlesville, Ok.	18.5	19.5	4.0	11.5

*State tax 2 cents; remainder city tax.
†Effective February 20, discounts on Q.D.A. in Chicago district 2 cents off service station price on purchases of 500 gallons or more per month and 4 cents on purchases of 1,000 gallons or more per month.

NAPHTHA

	Tank wagon	Tank car
Oleum spirits	15.7	13.9
V. M. & P. Naphtha	17.2	13.9
Cleaner's naphtha	17.0	14.9
Stanisol	18.0	15.4

Tank wagon prices f.o.b. Chicago; tank car prices f.o.b. Whiting.

STANOLIND FURNACE OIL IN CHICAGO

Less than 100 gallons	9.0
100 to 799 gallons	8.0
800 gallons or more	7.5

Note—Outside Chicago furnace oil discount of 1 cent per gallon is given on deliveries of 100 to 349 gallons and 1½ cents on deliveries of 350 gallons or more.

The following quantity discounts from the service station price are allowed on monthly sales of gasoline; 2,000 gallons or less, 2 cents; more than 2,000 and less than 6,000 gallons, 2½ cents; more than 6,000 gallons, 3 cents. Discounts are allowed each month, and they are not cumulative. Delivery tickets showing date and quantity delivered must be sent to the seller before the tenth of the month to secure the discount on the previous month's purchases.

SOUTHWESTERN DISTRICT

Magnolia Petroleum Co.

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Dallas, Tex. ...	17.0	21 0	4.0	13.0
Fort Worth ...	17 0	20.0	4 0	12 0
Hous.on	17 0	21.0	4 0	13 0
San Antonio ..	17 0	21.0	4.0	11 0
El Paso	17.0	21 0	4.0	16 0
Texarkana	17 0	21.0	4 0	12 0
Muskogee, Ok.*	17 0	20 0	4 0	13.0
Okla. City* ...	17 0	20 0	4 0	10 0
Tulsa*	15.0	19 0	4.0	10 0
Ft. Smith, Ark.	16.0	20.0	4.0	12.0
Little Rock ...	20.0	24.0	5.0	13.0

*Gasoline tank wagon price to dealers 2 cents under posted tank wagon.

ROCKY MOUNTAIN DISTRICT

Continental Oil Co.

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Denver, Colo...	18.0	21.0	4.0	15.5
Pueblo	18.0	21.0	4.0	15.5
Grand Junction	22.5	25.5	4.0	19.0
Casper, Wyo. ..	21.0	24.0	4.0	14.0
Cheyenne	22.0	25.0	4.0	15.5
Butte, Mont. ..	25.5	28.5	5.0	20.0
Helena	25.5	28.5	5.0	20.0
Salt Lake, Utah	22.0	25.0	3.5	17.0
Albu'que, N. M.	21.0	24.0	5.0	17.0
Boise, Idaho ..	24.5	27.5	4.0	19.0
Twin Falls	24.5	28.5	4.0	19.0

PENNSYLVANIA—DELAWARE AND PART NEW ENGLAND

The Atlantic Refining Co.

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Pittsburgh, Pa.	17.0	*23.0	...	14.0
Philadelphia ..	17.0	*23.0	...	14.0
Scranton	17.0	*23.0	...	14.0
Allentown	17.0	*23.0	...	14.0
Altoona	17.0	*23.0	...	14.0
Erie	14.0	*19.0	...	14.0
Dover, Del.	20.0	22.0	3.0	14.0
Wilmington ...	20.0	22.0	3.0	14.0
Springf'd, Mass.	18.0	20.0	2.0	15.0
Worcester	17.0	18.0	2.0	15.0
Boston	18.0	20.0	2.0	15.0
Providence, R.I.	16.0	17.0	2.0	15.0
Hartford, Conn.	18.0	20.0	2.0	14.0
New Haven ...	18.0	20.0	2.0	15.0

*Includes tax of 4.0 cents. Pennsylvania tax is collected by the dealer and paid by him direct to the state. The Atlantic Refining Co. recognizes a 2-cent per gallon discount on gasoline from its posted tank wagon markets on sales to dealers for purposes of resale. The Atlantic Refining Co. also recognizes a maximum discount of 2 cents per gallon on gasoline to commercial accounts under contract for one year.

NEW YORK AND PART OF NEW ENGLAND DISTRICT

Standard Oil Co. (New York)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Albany, N. Y...	15.0	17.0	2.0	15.0
New York*	19.0	21.0	2.0	15.0
Buffalo	16.0	18.0	2.0	14.0
Rochester	16.0	18.0	2.0	14.0
Syracuse	16.0	18.0	2.0	15.0
Boston, Mass...	18.0	20.0	3.0	15.0
Augusta, Me...	20.0	22.0	4.0	15.0
Manch't'r, N.H.	20.0	22.0	4.0	15.0
Burlington, Vt..	19.0	20.0	4.0	15.0

*Prices in steel barrels.

SOUTHERN DISTRICT

Standard Oil Co. (Kentucky)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Atlanta, Ga. ...	20.0	22.0	4.0	16.5
Augusta	22.0	24.0	4.0	15.5
Macon	22.0	24.0	4.0	16.5
Savannah	21.0	23.0	4.0	15.5
Birm'ham, Ala.	22.0	24.0	4.0	16.0
Mobile	22.0	24.0	4.0	15.0
Montgomery ...	23.0	25.0	4.0	16.5
Clarks'le, Miss..	22.0	24 0	5.0	12.5
Jackson	22.0	24 0	5.0	13.0
Natchez	21.5	23.5	5.0	14.0
Gulfport	23.5	25.5	5.0	14.0
Vicksburg	21.5	23.5	5.0	14.0
Jack'ville, Fla..	23.0	25.0	6.0	14.5
Miami	24.0	26.0	6.0	15.5
Pensacola	24.0	26.0	6.0	14.5
Tampa	23.0	25.0	6.0	14.5
Lexington, Ky..	21.0	23.0	5.0	15.5
Covington	21.0	22.0	5,0	15.5
Louisville	21.0	23.0	5.0	15.0
Ashland	18.0	19.0	5.0	15.5
Catlettsburg ..	18.0	19.0	5.0	15.5

In addition to the state tax of 4 cents on gasoline. Montgomery has city tax of 1 cent on gasoline and one-half cent on kerosene. Kerosene prices in Georgia include 1-cent tax. In Florida, an inspection fee of 0.125 cent; in Alabama, an inspection fee of one-half cent on kerosene and one-fourth cent on gasoline. Pensacola and Mobile taxes include 1-cent city levy. Gulfport tax includes privilege tax of 2 cents in addition to state tax.

Effective April 2, price to dealers 2 cents under posted tank wagon price.

PACIFIC COAST TERRITORY

Standard Oil Co. (California)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
San Francisco.	20.0	24.0	3.0	15.5
Los Angeles ..	19.5	23.5	3.0	15.5
Reno, Nev. ..	24.0	28.0	4.0	19.0
Portland, Ore...	20.5	24.5	3.0	16.5
Seattle, Wash..	19.5	23.5	2.0	16.5
Tacoma	19.5	23.5	2.0	16.5
Spokane	23.5	27 5	2.0	20.5
Phoenix, Ariz..	18.0	22.0	4.0	20.5

NEBRASKA

Standard Oil Co. (Nebraska)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Omaha	20.25	22.25	4.0	13.25
McCook	21.75	23.75	4.0	14.75
Norfolk	20.75	22.75	4.0	13.75
N. Platte	21.75	23.75	4.0	14.50
Scottsbluff	21.75	23.75	4.0	14.25

ATLANTIC COAST DISTRICT

Standard Oil Co. (New Jersey)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Atlantic City ..	14.0	18.0	2.0	13.0
Newark, N. J...	16.0	20.0	2.0	13.0
Annapolis, Md..	18.0	22.0	4.0	13.0
Baltimore	18.0	22.0	4.0	12.0
Cumberland ...	18.0	22.0	4.0	12.0
Washington ...	16.0	20.0	2.0	12.0
Danville, Va. ..	19.0	23.0	5.0	12.0
Norfolk	19.0	23.0	5.0	13.0
Petersburg	19.0	23.0	5.0	13.0
Roanoke	18.0	21.0	5.0	13.0
Richmond	19.0	23.0	5.0	13.0
Charles'n, W.Va.	18.0	22.0	4.0	13.0
Keyser	18.0	22.0	4.0	13.0
Parkersburg ...	18.0	22 0	4.0	13.0
Wheeling	18.0	22.0	4.0	13.0
Charlotte, N. C.	19.0	23.0	5.0	13.0
Hickory	19.0	23.0	5.0	13.0
Mt. Airy	19.0	23.0	5.0	13.0
Salisbury	19.0	23.0	5.0	13.0
Charleston, S.C.	20.0	24.0	6.0	13.0
Columbia	20.0	24.0	6.0	13.0

OHIO

Standard Oil Co. (Ohio)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Ohio points* ..	20.0	21.0	4.0	†14.0

*Dealers and commercial accounts 2 cents under tank wagon.
†Service station price 16 cents.

CENTRAL SOUTH DISTRICT

Standard Oil Co. (Louisiana)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
N. Orleans, La.*	18.5	22.5	5.0	16.0
Baton Rouge ..	17.0	21.0	4.0	14.5
Alexandria	18.0	22.0	4.0	16.0
Lafayette†	19.0	23.0	5.0	14.0
Lake Charles†.	19.5	23.5	5.0	16.0
Shreveport	18.5	22.5	4.0	15.0
Knoxv'le, Tenn..	20.0	24.0	5.0	16.0
Memphis	18.0	22.0	5.0	12.5
Chattanooga ..	21.5	25.5	5.0	16.0
Nashville	19.0	23 0	5.0	16.0
Bristol	22.0	25.0	5.0	14.0
Lit. Rock, Ark..	20.0	24.0	5.0	13.0

*Tax of 5 cents includes city tax of 1 cent. Louisiana kerosene prices include 1-cent state tax and 1-cent parish tax.
†Includes 1-cent parish tax.

TANK WAGON CHANGES

July 11.—Magnolia Petroleum Co. reduced gasoline tank wagon and service station prices 1 cent at El Paso.

July 13.—Magnolia Petroleum Co. reduced kerosene tank wagon price 1 cent at Texarkana, Tex.

July 15.—Standard Oil Co. of New Jersey advanced gasoline tank wagon and service station prices 2 cents at Parkersburg, W. Va.

July 16.—Magnolia Petroleum Co. advanced gasoline tank wagon and service station prices 2 cents in Texas, due to increase in state tax from 2 to 4 cents.

OXFORD TOWNSITE CASE TO U. S. SUPREME COURT

By Charles E. Kern

Washington Bureau, The Oil and Gas Journal

WASHINGTON, D. C., July 22.—The constitutionality of a city ordinance of the city of Oxford, Kan., regulating the drilling of oil, will be determined in the Supreme Court of the United States. A writ of certiorari has been filed in the case of C. A. Marrs and others against the city. The ordinance stipulated that only one well should be drilled in one block, that the holder of the lease or drilling contract should pay to the owners of lots not leased for drilling, one-eighth of the whole production in proration to the area of the unleased lots to the area of the entire block; also that when there were two applicants for permits the permit should be granted to the one holding the lease on the greater area in the block, but the other should be permitted to pay a proportional share of the drilling expense and share in the profits.

The petitioners are the fee simple owners of two lots within the city, who have leased to another who employed a drilling contractor to drill for oil or gas, the brief states. After starting work, the contractor and his employes were repeatedly arrested for violating the city oridnance, so that the petitioners sought temporary injunctive relief against the arrests, and a permanent injunction against the enforcement of the ordinance. This relief was denied and they now seek to have the Supreme Court pass on the constitutionality of the ordinance.

"The right of the owner of the surface of lands to drill for oil and gas is a property right," the brief contends, "of which he cannot be constitutionally deprived."

The ordinance is unconstitutional in that it has no rational relationship to the public health, safety and welfare, the petition asserts, and is an attempt to regulate a legitimate business. The petition also assails the constitutionality of the ordinance on the ground that it makes contracts for the owners of lands and compels him to divide with adjacent owners the oil produced by him or his lessee.

The decision of the United States Circuit Court of Appeals in this case was published in The Oil and Gas Journal of April 18, 1929, page 32.

CRUDE OIL PRICES

(Continued from Page 231)

Rockdale-Minerva (April 15):	
Below 28 gravity	1.25
28-38.9 gravity	1.27
39-39.9 gravity	1.39
40 and above	1.31
Thrall‡	
Callihan (May 15)	1.75
Lytton Springs (Lockhart)	See gravity table
Somerset	See gravity table

*Posted by Magnolia Petroleum Co.
†Magnolia Petroleum Co., Humble Oil & Refining Co., Crown Central Pipe Line Co.
‡Thrall prices same as North Central Texas less 19½ cents per cwt. freight.
§Humble Oil & Refining Co.

EASTERN STATES

Joseph Seep Purchasing Agency
(Effective July 16, 1929)

Penna Grade Oil in New York Transit Lines (New York)	$3.80
Bradford District Oil in National Transit Lines (Pennsylvania)	3.80
Penna Grade Oil in National Transit Lines (Pennsylvania)	3.80
Penna Crude Oil in Southwest Pennsylvania Lines (West Virginia)	3.75
Penna Grade Oil in Eureka Pipe Line Lines (Pennsylvania)	3.65
Penna Grade Oil in Buckeye Pipe Line Lines (Ohio)	3.50
Cabell Grade Oil in Eureka Pipe Line Lines (West Virginia) (May 22, 1929)	1.75
Corning 35-cent Grade Oil in Buckeye Pipe Line Co.'s Line (May 22, 1929).	1.80
Corning 25-cent Grade Oil in Buckeye Pipe Line Co.'s Lines (May 22, 1929)	1.90
Somerset Oil in Cumberland Pipe Line Lines (Kentucky) (May 22, 1929) ...	1.80
Ragland Grade Oil in Cumberland Pipe Line Lines (Kentucky) (Jan. 29) ...	.60

MIDDLE WESTERN STATES

Ohio Oil Co.
(Effective May 21, 1929)

Lima	$1.80
Wooster	1.90
Illinois	1.75
Indiana	1.57
Princeton	1.75
Plymouth	1.28
Waterloo (November 17, 1926)	1.35
Western Kentucky	1.83
Dundee, Mich. (June 26, 1929)‖	1.25
Upper and Lower Traverse sands, Mich.‖	Same as Mid-Continent gravity scale
Midland, Mich. (June 3, 1929)*	1.70
Saginaw, Mich., Saginaw Sand (February 10)†	1.89
Saginaw, Mich., Berea Sand (February 10)†	1.79
Cumberland, Clay, Barren, Clinton and Monroe Counties, Kentucky, (March 15)‡	1.50
Oil in line in Stoll Oil Refining Co. in Oil City, Ky. (June 1, 1929)§	1.80
Oil Springs (Canada)¶	2.27
Petrolia (Canada)¶	2.30

*Posted by Pure Oil Co.
†Posted by Sun Oil Co.
‡Posted by Paragon Development Co.
§Posted by Stoll Oil Refining Co.
¶Posted by Imperial Oil Co., Ltd.
‖Posted by Standard of Indiana for boat shipment.

MEXICAN CRUDE

Panuco (May)*	$ .65

*Based on June transactions. Price exclusive of taxes.

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MOTOR OIL

Consolidation of Texas Oil Interests

Cranfill & Reynolds, Central Texas Refining and Moody-Seagraves Interests Figure in Reorganization

Consolidation of the Cranfill & Reynolds interests, the Central Texas Refining Co. and the oil production holdings of the Moody-Seagraves interests of Houston, Tex., was made known the past week. Organization of the Cranfill-Reynolds Co., incorporated under the laws of Delaware, has been perfected to operate the merged interests.

Of the new company, T. E. Cranfill of Dallas was elected president; O. R. Seagraves of Houston was chosen chairman of the board; W. L. Moody, 3d, vice president and treasurer; J. H. Reynolds, Dallas; A. H. Richardson, Dallas, and Walter L. Goldston, vice presidents.

Included in the merger was the Cody Petroleum Co. of Cody, Wyo., an 80 per cent controlling interest in which recently was acquired by the United Gas Co., a Moody-Seagraves interest. Other holdings of the Moody-Seagraves interests in the merger included considerable wildcat acreage on the Gulf Coast.

Cranfill & Reynolds' contribution to the new company takes in considerable production in West Texas, as well as gathering lines and other extensive property in West Texas and New Mexico.

The Central Texas Refining Co. will continue as a subsidiary with C. A. Middleton, president. The latter has refineries at Angus, Minerva, Brownwood and Midland.

Standard of Indiana

In pointing out the growth of its stock transfer department, Standard Oil Co. of Indiana states that stock in the company could have been purchased in 1911 for $3,855 a share, which is worth at present market quotations about $53,000. This calculation takes into consideration stock dividend payments of 2900 per cent on April 2, 1912, 150 per cent on December 18, 1920, 100 per cent on December 28, 1922, and 50 per cent on February 16, 1929.

"During this period," the company states, "such stockholder also received a total of $20,032.50 in cash dividends.

"The 2900 per cent stock dividend of April 2, 1912, increased the number of shares outstanding to 300,000. On August 31, 1912, the company paid its first dividend, amounting to $900,000, to approximately 4,700 stockholders. Since then there has been a prodigious increase, as evidenced by 55,285 stockholders having participatel in the cash and stock dividends declared to stockholders of record February 16, 1929, the cash dividend amounting to $15,691,336.09. These figures are exclusive of stock distributed to participants in the second employes stock purchasing plan."

In April of the current year 13,209 certificates of stock of the company were issued. In the same month of 1917, the most readily accessible records, 584 certificates were issued in connection with transfers.

Lion Oil Refining

June profit of Lion Oil Refining Co. was $243,100 after depreciation, depletion and other charges, but before federal taxes, the most profitable month in history of company. May profit was $230,878.

Pan American

Standard Oil Co. of Indiana is expected to offer shortly an exchange of stock to Pan American Petroleum & Transport Co. on the basis of 1 1-5 shares of Standard Oil of Indiana for each share of Pan American, says the Wall Street Journal. An exchange is also expected to be made by Pan American for the stock of Lago Oil & Transport Corp., possibly in the ratio of one share of Pan American for every two shares of Lago.

There are at present outstanding 1,000,000 shares of $50 par voting common stock of Pan American Petroleum & Transport Co., in addition to 2,422,041 shares of non-voting common B $50 par stock, or a total of 3,422,041 shares. The company is controlled by Standard Oil Co. of Indiana through the latter's majority stock holding in Pan American Eastern Petroleum Corp.

Of the 3,992,394 shares of no par value of Lago Oil & Transport Corp., outstanding on December 31, 1928, the Pan American company holds approximately 98½ per cent.

Independent Oil & Gas

Independent Oil & Gas Co., and subsidiaries, including Manhattan Oil Co., report for quarter ended June 30, 1929, net income of $1,616,205 after interest, taxes, depreciation and depletion, equivalent to $1.17 a share earned on 1,379,667 no-par shares of stock. This compares with $2,018,850 or $1.51 a share on 1,333,572 shares in preceding quarter and $112,517 or 17 cents a share on 650,000 shares in June quarter of 1928, excluding Manhattan Oil Co.

Net income for first six months of 1929, totaled $3,635,055 after above charges, equal to $2.63 a share on 1,379,667 shares comparing with net loss excluding Manhattan Oil Co. of $306,881 in first half of previous year.

Lone Star Gas

Lone Star Gas Corp. and affiliated companies report for five months ended May 31, 1929, net profit of $3,430,670 after charges, depreciation and federal taxes, equivalent to $2.38 a share (par $25) earned on 1,438,334 shares of stock.

Sun Oil

Report of Sun Oil Co. and subsidiaries for six months ended June 30, 1929, shows net income of $3,637,540 after interest, depreciation, depletion and estimated federal taxes, equivalent after allowing for dividend requirements on 6 per cent preferred stock, to $2.68 a share on 1,299,934 shares of no par common stock. This compares with $2,513,929 or $1.96 a share on 1,205,579 common shares in first half of 1928.

North Central Texas Oil

North Central Texas Oil Co., Inc., declared regular quarterly dividend of 15 cents, payable September 3 to stock of record August 10.

National Refining

National Refining Co. declared regular quarterly dividend of 37½ cents on common, payable August 15 to stock of record August 1.

Houston Oil

Houston Oil Co. declared regular semi-annual dividend of $3 on the preferred payable August 1 to stock of record July 19.

White Eagle

White Eagle Oil & Refining Co. reports for quarter ended June 30, 1929, profit of $823,075 after charges, depreciation and depletion, but not federal taxes. This compares with net loss of $139,170 in preceding quarter and profit before federal taxes of $501,712 in June quarter of previous year. Profit for first six months of 1929 totaled $683,905 before federal taxes, compared with $466,873 in first half of 1928.

Missouri-Kansas Pipe Line

Missouri-Kansas Pipe Line Co. declared a stock dividend of 1-30 of a share, payable July 31. Company will pay cash for fractional shares at rate of $30 a share.

Phillips Petroleum

Earnings of the Phillips Petroleum Co. for the six months ending June 30 were $8,510,807.51, compared with $6,519,977.37, for the same period last year, an increase of over 30 per cent. These earnings are after all charges except depletion and depreciation. Earnings for the second quarter on the same basis were $4,897,927.95, which is an increase of over 43 per cent over the corresponding period last year. June earnings were at an annual rate of over $24,000,000. These earnings were due almost entirely to an increase in the variety of products made and sold by the company.

N. J. Employes' Stock

Directors of the Standard Oil Co. of New Jersey have fixed a price of $53 per share for the employes' stock purchase plan during the closing half of the year, compared with $47 a share during the first six months of 1929.

Twenty Representative Stocks

The Oil and Gas Journal's weekly average price of 20 representative petroleum stocks listed on the New York Stock Exchange and New York Curb, based on closing quotations for Saturday, was as follows:

Feb. 23	54.92	May 11	59.75
March 2	56.43	May 18	59.30
March 9	55.96	May 25	57.73
March 16	58.63	June 1	56.45
March 23	58.52	June 8	58.37
March 30	58.57	June 14	57.76
April 6	58.26	June 21	56.76
April 13	58.52	June 28	56.70
April 20	58.46	July 5	56.52
April 27	58.34	July 12	55.69
May 4	59.13	July 19	56.83

OIL COMPANIES BUY PLANES

Two more large oil companies have been added to the list owning airplanes. They are the Standard Oil Co. of Ohio and the Arch Haynes Drilling Co. of Shreveport, La. Each has purchased a Ryan six-place cabin plane made by the Ryan Aircraft Corp. of St. Louis, a unit of the merger of nine large aviation manufacturing companies under the control of the Detroit Aircraft Corp.

INDEPENDENT OILS ON NEW YORK CURB

Quotations Compiled by Francis, Bro. & Co., Kennedy Building, Tulsa, Okla.

1926 High	1926 Low	1927 High	1927 Low	1928 High	1928 Low	Par value	Stocks	For week ended July 20 Sales	Open	High	Low	Last
$6.75	.45	2⅞	.55	1½	.53	$5	Amer. Con. Oilfields	6,500	½	7-16	⅜	½
..	..	7½	2⅜	9½	3½	N.P.	Amer. Maracaibo	13.600	..	5	3⅞	4⅝
..	..	2¾	1	4½	2¼	$10	Argo Oil	1,000	2⅛	2⅛	1⅝	1⅝
85¼	60	40	20½	55	32¾	N.P.	British American	1,700	..	16½	16	16⅛
28⅝	9¼	28¼	15½	4½	3⅞	25c	Carib. Syndicate (new)	2,600	3½	4¼	3½	4⅛
..	..	58¾	40¼	90⅞	54	$20	Cities Service	46.600	39⅞	40¾	39¾	40¾
..	..	95⅜	87	103½	94½	100	Cities Service, pfd.	5,000	¾	⅞	¾	¾
..	..	8⅞	7⅜	9⅝	8⅞	10	Cities Service, pfd. B	No sales				
3½	1¾	3⅞	1⅛	3¼	76	1	Colombia Syndicate	No sales				
..	..	9¾	6⅜	8⅞	6¼	10	Consolidated Royal	3,500	5⅞	8½	4⅞	8½
16	10	14⅞	9½	17½	9½	N.P.	Creole Syndicate	8,200	8	8⅛	7⅞	8
..	..	3	.50	3¼	.76	N.P.	Crown Central	1,000	1½	1½	1¼	1¼
7⅞	6¾	12	4	33½	3¼	N.P.	Darby Petroleum	3.000	15	15	14½	14½
..	..	2½	74	2¼	1	N.P.	Derby Oil & Refining	8,000	..	9⅝	9	9½
..	..	16¾	4	21⅛	7½	N.P.	Derby Oil & Refining, pfd.	No sales				
..	..	2	.40	.53	.15	N.P.	Gilliland ctfs.	No sales				
98	92	118	86¼	165	101⅛	$25	Gulf Oil Corp.	7,200	196	196	190⅛	192
$3.00	.83	2½	.80	3⅝	1	5	Intercontinental Pet.	5,300	1⅜	1⅜	1¼	1¼
..	..	2¼	1⅜	8	1¼	N.P.	Kirby Petroleum	300	1⅞	1⅞	1⅜	1⅜
12¼	5¾	10⅞	5⅛	9⅝	5⅛	25	Leonard Oil & Dev.	35,100	4¾	5⅝	4¾	5½
27	20	27½	20	43⅞	20	N.P.	Lion Oil & Refining Co.	700	33⅛	35⅞	33⅛	35⅞
46	30	59⅜	37	69⅛	48½	$25	Lone Star Gas	5.400	34¾	39⅝	34¾	35
2⅞	1	2⅞	.80	1⅞	.50	1	Magdalena Syndicate	2,000	⅝	½	⅝	⅝
34	12½	52	12	48½	32	N.P.	Margay Oil	No sales				
8	5½	12⅛	5	8	2¾	N.P.	Mexico-Ohio Oil	No sales				
1¾	1⅛	1½	1	1¾	.76	$1	Mountain & Gulf	400	⅞	⅞	⅞	⅞
26	23	29¼	22¾	28⅞	19½	10	Mountain Producers	9,200	13	13⅞	12⅛	12⅛
6⅝	5	5⅞	4⅝	5⅝	4¼	5	New Bradford	1,200	3⅜	3½	3¼	3½
..	..	16	9¼	11⅞	7⅛	1	New Mex. & Ariz.	400	6½	7	6⅛	6⅛
..	..	12¾	9½	14¼	8½	N.P.	North Central Texas	2,500	..	11⅞	11⅛	11½
10⅛	5⅞	9⅝	3¼	6	2½	N.P.	Pandem	1.400	1½	1½	1⅜	1½
12¼	11¾	12⅛	7	15⅝	8½	N.P.	Pantepec Oil	2,500	6⅜	6⅜	6⅛	6¼
22¾	12	13½	5⅛	7⅜	4⅞	N.P.	Pennok Oil	No sales				
17	8½	24⅝	7	18	4⅞	25	Red Bank Oil	700	11½	11½	11	11
30¼	12	15½	3½	12⅞	4⅛	N.P.	Reiter-Foster	2,300	5⅞	5⅞	5⅛	5⅛
7	4½	7	4½	12	4⅛	N.P.	Ryan Consolidated	600	6¼	6½	6	6
10	7⅛	8	5¼	7¼	5½	$10	Salt Creek Cons.	2.100	3⅛	3⅛	2⅜	2⅜
35	24½	35½	27¼	35	23⅛	10	Salt Creek Prod.	3,300	17	17	14⅝	14⅝
6⅞	1¼	7	1¼	3½	1	5	Savoy Oil	600	1⅛	1⅛	1⅛	1⅛
92	63½	92	63½	93¼	75	100	Transcontinental, pfd.	500	145	145	144	144½
8	4½	7⅝	4¼	9⅛	4¾	5	Venezuelan Petrol	3,700	3⅝	3⅝	3½	3½
8⅛	5½	8	4¾	8¼	4⅞	$1	Woodley Petroleum	600	4½	4½	4¼	4½
6½	6	6	1¾	8⅜	2⅛	25	Y Oil & Gas (new)	400	1⅝	1⅝	1⅝	1⅝

TRANSACTIONS IN OIL SHARES ON NEW YORK STOCK EXCHANGE

Quotations Compiled by Francis, Bro. & Co., Members of New York Stock Exchange, Kennedy Building, Tulsa, Okla.

1926 High	1926 Low	1927 High	1927 Low	1928 High	1928 Low		Listed capital	Par value	Stocks—	Div. rate	Last paid	For week ended July 20 Sales	Open	High	Low	Last	Change
32⅞	24¼	37⅝	27⅝	43⅞	27⅛	(sh)	922,075	N.P.	Amerada Corp.	50cQ	Oct. 31, 28	23,800	32⅞	32⅞	28¾	31	—1¾
74	39⅞	82⅛	35⅛	85	51⅛	(sh)	209,180	N.P.	American Republics Corp.	.....	.....	2,400	45	47⅞	44⅝	44⅞	— ⅛
60	44¾	50¼	35	53⅜	37½		$57,260,300	$25	Associated Oil	50cQ	Dec. 31, 28	18,000	44½	45	44½	44½	.....
128⅜	97	131⅝	104	66⅝	50		50,000,000	25	Atlantic Refining	25cQ	Dec. 15, 28	135,000	69¼	69¼	66	67⅜	—1½
33½	23½	35½	20¾	53	20		35,194,000	25	Barnsdall Corp.	50cQ	Feb. 5, 29	37,600	40	40⅜	39	39	—1
94½	50	96¾	65	94⅞	68		20,785,400	100	General Asphalt	.....	.....	59,100	86⅞	90⅞	85¾	89¼	+2⅝
72	50¼	175¾	60⅛	167	79		25,000,000	100	Houston Oil	.....	.....	2,500	77	79¾	76½	77½	— ½
84	19⅝	32¾	17⅝	38⅜	21¾	(sh)	959,457	N.P.	Independent Oil & Gas	50cQ	Jan. 31, 29	16,800	34¾	34¾	33½	33½	— ⅜
12¾	7½	12⅛	7⅝	39⅝	9		8,203,080	$10	Indian Refining	.....	May 31, 24	34,500	43⅛	43⅛	40⅜	41⅛	—1½
25⅞	16½	37¾	20½	39⅛	27⅜	(sh)	3,992,122	N.P.	Lago Oil & Transport	.....	May 1, 27	No sales					
19⅞	12	18⅛	10	19¾	9⅝	(sh)	1,237,078	N.P.	Louisiana Oil Refining	.....	.....	11,500	12⅛	12⅛	11¾	11¾'	— ⅜
28	16½	22¾	12	25½	12½	(sh)	330,000	N.P.	Maracaibo Oil	.....	.....	1,100	..	16	13⅛	15¼	+1⅝
63⅜	49¼	58½	31	49¾	33	(sh)	2,316,692	N.P.	Marland Oil Co.	.....	Mar. 31, 27	41,700	45½	45⅞	39	40	—6
13¾	6	9¼	3	73	4⅝	(sh)	945,939	N.P.	Mexican Seaboard	.....	Dec. 15, 20	9,700	33	33	32½	32½	—1
37	20½	39⅜	25½	44½	25⅛	(sh)	1,357,461	N.P.	Mid-Continent Petroleum	50cQ	Feb. 15, 29	No sales					
104¼	90	105	97	120½	103¼		$6,718,000	$100	Mid-Continent Petroleum pfd.	$1.75Q	Sept. 1, 28	7,700	3½	3⅝	3½	3½	.....
2½	½	3⅜	1⅝	7⅜	2⅜		24,298,850	10	Middle States	.....	July 1, 23	19,400	56	62	56	62	+5⅞
76½	56⅛	65⅞	40⅛	54⅞	38¼		$48,807,400	$50	Pan American P. & T.	.....	Oct. 20, 27	308,500	60¼	64¾	59	63⅛	+2⅞
78⅝	56⅞	66⅝	40¼	58⅞	37⅜		121,097,900	50	Pan American P. & T. B.	.....	Nov. 15, 24	56,100	14	14½	13¾	14½	+ ½
46	30	37⅞	16¾	28⅜	15½	(sh)	400,000	N.P.	Pan American Western B.	.....	Jan. 30, 27	1,200	9	9¼	9	9	— ½
32	4½	18⅞	8	21¾	11½	(sh)	198,770	N.P.	Panhandle P. & R.	.....	.....	No sales					
99⅜	51	83	54	108	70		$2,935,200	$100	Panhandle P. & R. pfd.	.....	July 2, 23	15,300	36¾	36⅞	35½	36½	— ¼
57⅜	40	60¼	36¼	53⅞	35¼	(sh)	2,406,796	N.P.	Phillips Petroleum	37½cQ	Jan. 2, 29	2,400	2	2⅛	2	2	— ⅛
....	....	1⅛	½	5¼	½		$29,622,925	$25	Pierce Oil Corp.	.....	.....	7,700	4⅛	4⅜	4	4½	+ ⅜
7	2¼	5½	2½	7	3½	(sh)	2,500,000	N.P.	Pierce Petroleum	.....	.....	10,600	54	54½	53	53	—1½
60¼	48	55½	45⅝	68	46		60,000,000	25	Prairie Oil & Gas	.....	Aug. 31, 27	6,300	60½	60⅝	60	60⅜	+ ¼
137½	122½	190	130¾	280	172		$101,250,000	$25	Prairie Pipe	75cQ*	Mar. 31, 29	1,400	17⅛	17½	17	17	.....
20¾	11	33⅞	16¾	29⅞	16		$37,450,850	$50	Producers & Refiners	.....	Sept. 15, 23	21,500	..	40¼	39	39	—1½
41¾	30¾	50	36⅞	49⅝	41		2,845,350	50	Producers & Refiners pfd.	.....	May 1, 25	17,200	26½	26⅞	25⅛	26¼	— ½
31	25¼	33½	25	31⅝	19		75,959,350	25	Pure Oil Co.	25cQ	Dec. 1, 28	No sales					
27½	22	28⅝	25⅜	56	23		47,025,000	$25	Richfield Oil	.....	Nov. 15, 28	5,800	54	54⅜	53⅜	54	+ ¼
57⅜	47⅜	54½	44¼	64	44⅝	(sh)	611,303	13.40	Royal Dutch, N. Y. shares	50cQ	Jan. 10, 29	No sales					
48⅝	40½	47⅞	41⅜	57½	40⅝	(sh)	£30,000,000	£1	Shell Transport & T.	$1.45	July 23, 28	20,900	26½	27	26⅜	26⅝	— ⅛
31	24	31¾	24⅝	39¼	23¼	(sh)	20,000,000	N.P.	Shell Union Oil	35cQ	Dec. 31, 28	226,900	37¾	39⅜	35⅜	37¼	— ⅝
25⅝	15⅛	26⅜	14¼	27¼	18⅛		$8,357,000	$10	Simms Petroleum	10cQ	Dec. 15, 28	80,700	35⅝	36¾	35½	35½	.....
24⅞	16¾	22⅝	15	46¾	17⅝	(sh)	4,501,915	N.P.	Sinclair Consolidated	.....	.....	200	109¾	109¾	109¾	109¾	+ ⅝
99½	90	104½	97	110	102½		$16,604,600	$100	Sinclair Consolidated pfd.	$2Q	Nov. 15, 28	71,200	40⅝	44½	40	41¾	+1
37⅛	26⅝	37⅜	24⅛	42⅝	25		27,396,590	25	Skelly Oil Co.	50cQ	Dec. 15, 28	37,400	73	74¼	74½	72⅞	— ⅜
63⅝	51½	60¾	50⅜	80	53	(sh)	12,594,098	N.P.	Standard Oil of California	65½Q	Dec. 15, 28	75,000	57⅛	58	56½	57⅝	+ ½
46⅜	37½	41⅝	35⅛	59⅜	37¾		$611,120,700	$25	Standard Oil of New Jersey	25cQ*	Dec. 15, 28	70,400	39	40¼	38⅝	40	+1
47¼	30⅜	34⅛	29¾	44¼	28¾		427,973,275	25	Standard Oil of New York	40cQ	Dec. 15, 28	4,000	73	75	72¾	74⅞	+2⅞
41¾	30⅛	34⅞	30	77	31½	(sh)	1,206,073	N.P.	Sun Oil	25cQ	Dec. 15, 28	28,600	7⅝	7⅝	7⅛	7½	— ⅛
5¼	1	6½	3⅛	14¼	2½	(sh)	1,267,000	N.P.	Superior Oil Corp.	.....	Dec. 20, 20	46,100	61⅝	62¾	61	62⅜	+ ¼
58	48	58	45	74¾	50		$211,076,650	$25	The Texas Corporation	75cQ	Jan. 1, 29	9,200	17⅜	17⅜	16¼	16¼	+1
19½	12	18⅞	12	26⅝	12⅛		8,380,340	10	Texas Pacific Coal & Oil	.....	Jan. 3, 28	100	34	37⅜	34	35	+ ½
39¼	27	29⅛	19	41½	19⅝	(sh)	2,168,410	N.P.	Tide Water Oil Co.	20cQ	Dec. 15, 28	1,400	92½	92½	90¼	91	—1
103	87¼	90⅜	85	100⅛	86		$20,705,200	$100	Tide Water Oil Co. 5% pfd.	65½cQ	Dec. 15, 28	103,500	19⅝	22¼	19½	20¼	+ ⅝
27	20⅞	19⅛	15¾	25	14⅜	(sh)	4,796,158	N.P.	Tide Water Associated	.....	Aug. 1, 27	83,300	12	12⅝	11½	12¼	+3
5½	3	10⅜	3¾	14¾	7¼	(sh)	3,742,029	N.P.	Transcontinental Oil	.....	.....	5,100	47¾	48⅞	47	47½	— ½
58⅜	37¼	56½	39⅝	58	42¾		$94,798,100	$25	Union Oil of California	50cQ	Nov. 10, 28	200	147	149½	147	149½	+3½
120⅝	84¼	127½	94	128⅛	110		31,061,200	100	Union Tank Car Co.	$1.25Q	Dec. 1, 28	4,000	32⅛	32⅞	31¼	31¼	— ¾
30⅛	23½	34½	24½	44⅞	26	(sh)	356,000	N.P.	Warner Quinlan	50cQ	Jan. 2, 29	8,600	33¾	34¾	33⅛	34½	+1
29¾	25⅛	27½	20	38	20⅛	(sh)	490,000	N.P.	White Eagle Oil & Refining	50cQ	Jan. 20, 29	700	19	19	18⅛	18⅛	— ⅞
									Wilcox Oil & Gas	.....	.....						

*Also extras. †Ex-dividend.

STANDARD OIL STOCKS ON NEW YORK CURB

21	16	21⅝	17⅞	22⅜	14⅞		£4,126,460	£1	Anglo-American Oil	.....	June 6, 28	3,600	15	15	14⅝	14⅝	
....	....	3¾	¾	5	1¼	(sh)	500,000	N.P.	Atlantic Lobos	.....	.....	18	1⅞	1⅞	1⅝	1⅝	
76	65	69	50	56½	44½		1,000,000	25	Borne Scrymser	$1S.A.	Oct. 15, 28	50	35	35	35	35	
59½	42	60	45	76	53		10,000,000	50	Buckeye Pipe Line	$1Q	Dec. 15, 28	700	68¼	68⅜	68¼	68¼	
82½	65	126	76½	161	117		3,000,000	25½	Chesebrough Mfg.	$1Q	Dec. 28, 28	No sales					
25⅞	17½	22⅝	16¼	23	16		36,057,840	10	Continental Oil	.....	Dec. 15, 27	10,500	20⅛	20¼	19	19½	
137	102	137	89	114	67		1,500,000	50	Cumberland Pipe Line	$1A	Dec. 15, 28	50	69	69	69	69	
63¾	43	68½	47	88	64⅛		5,000,000	100	Eureka Pipe Line	$1Q	Nov. 1, 28	50	59	59	59	59	
32½	9⅞	13½	3½	13	4¼		16,000,000	100	Galena Signal Oil	.....	June 30, 25	No sales					
68½	52	68½	54	114¾	59¼		73,117,577	25	Humble Oil & Refining	30cQ*	Jan. 1, 29	8,610	125½	125⅞	121⅜	123¼	
144½	125½	182	123¾	290½	176½		20,000	100	Illinois Pipe Line	10%S.A.	Dec. 15, 28	300	310	310	306	306	
....	....	64¾	37¾	104	56¾	(sh)	6,458,267	N.P.	Imperial of Canada	25cQ	Dec. 1, 28	5,200	30	30	29⅜	29½	
72½	58	94½	61	91⅞	74⅜		$5,000,000	$50	Indiana Pipe Line	$1Q	Feb. 15, 29	700	103¼	106	103¼	106	
35½	28¾	39	28¼	55	35	(sh)	7,123,444	N.P.	International Petroleum	25c	Nov. 30, 28	10,800	24⅞	26⅜	23¾	25⅞	
20¾	12½	24	13½	32⅜	19⅜		$6,363,350	12.50	National Transit Co.	25c	Dec. 15, 28	2,300	23	23	22⅝	22¾	
51½	27¼	44½	31¼	75	38½		5,000,000	100	New York Transit	.....	July 15, 26	600	15	15	15	15	
80½	64	100	70	69	56½		2,000,000	50	Northern Pipe Line	$3S.A.	Jan. 2, 29	No sales					
67¾	55¾	67⅞	52	84	58½		60,000,000	25	Ohio Oil Co.	50cQ*	Dec. 15, 28	3,000	71⅜	71⅜	70½	70¾	
24¾	15	39	12	84	28		10,000,000	25	Penn Mex. Fuel	$1.25	Dec. 15, 28	700	39⅞	39⅞	35	35	
220	84½	201½	175½	220	167		4,000,000	100	Solar Refining	$5S.A.	Dec. 20, 28	No sales					
74½	61½	27¼	15½	19	15		1,000,000	10	Southern Pipe Line	$2	Dec. 1, 27	200	20	20	19¼	19¼	
50	34½	41½	35	71⅞	36¾		2,000,000	25	South Penn Oil	50cQ	Dec. 31, 28	2,000	53	53	50⅝	51⅛	
56	47½	83	55½	102	70		3,500,000	100	Southwest Pa. Pipe Lines	$1Q	Oct. 1, 28	100	66	66	64¼	65¾	
70½	60½	81½	64⅝	95⅞	70⅞		228,415,463	25	Standard Oil of Indiana	61½Q	Dec. 15, 28	18,000	56⅜	56⅜	55	55	
36½	16½	20⅞	14⅝	37¾	15		8,000,000	25	Standard Oil of Kansas	.....	June 16, 24	300	18⅛	20	18⅛	20	
134⅜	108	130	111½	179¾	122¼		17,012,559	10	Standard Oil of Kentucky	$1Q	Dec. 31, 28	5,200	37⅞	37⅞	36⅞	37	
51⅜	42	49½	40	54⅞	39⅞		4,559,850	25	Standard Oil of Nebraska	63cQ	Dec. 20, 28	700	47¼	47¼	47¼	47¼	
372	288	87½	72	134	71		14,000,000	25	Standard Oil of Ohio	62½cQ	Jan. 2, 29	210	120	120	117	117	
21	15	21	14½	23½	16		861,000	25	Swan Finch Co.	.....	Nov. 1, 19	No sales					
109⅜	90¼	....	....	111	72		125,619,000	25	Vacuum Oil	75cQ	Dec. 20, 28	7,000	119⅝	120½	118½	120	

*Also extras.

DEATH OF F. M. KELLEHER

Fred M. Kelleher, Wichita Falls oil man, died in that city July 17 from a complication of ailments. He was about 70 years of age. Mr. Kelleher had been in the oil business for many years. In his younger days he was a telegraph operator for the National Transit Co. in Bradford, later becoming manager of the Postal Telegraph Co. there. He entered the Mid-Continent as an employee of The Texas Company and leased many thousands of acres of Texas land for that company. He resigned after years of service and successfully engaged in leasing and land operations for himself operating in Texas. He is survived by Mrs. Kelleher and son Harold. The funeral was held in Wichita Falls and the body was taken to Wellsville, N. Y., for burial.

Mr. Kelleher was proud of one interesting incident in his busy life. When John McGraw, now manager of the New York Giants, and perhaps the most colorful character in baseball, failed to make the grade in his first professional engagement with the Olean, N. Y., league team in 1890, Kelleher signed him for his Wellsville team as shortstop and the 17-year-old lad played sensational ball and two years later was with the afterwards famous Baltimore team that won pennants in the National League.

KANSAS FIELDS

(Completed from Page 68)

SE, Section 4-21-3, just north of the Washabaugh well. The McPherson Oil & Gas Co. has a new location, No. 1 Hull, C SW, Section 11-19-2, a half mile west of the same company's recently completed gas well. The gas well and the new location are on the Shell Petroleum Corp.'s block on which the McPherson Oil & Gas Co. owns the gas rights.

The Shell Petroleum Corp.'s No. 1 Reitz, in Section 1-20-2, produced 1,040 bbls. July 20. This chat well has produced better than 15,000 bbls. of oil since its completion July 1. The same company's pipe line to the loading rack 4 miles north is completed and the first shipments in tank cars will go forward in a few days.

Rush County Tests

Tests in Rush County are trying to locate the gas trend which was discovered by the Danciger Oil & Refining Co. in its No. 1 Scheuerman, in the C NW Section 27-27-27w, which well is now making about 18,000,000 feet of gas from the 3,700-foot sand. Same company's No. 1 Swindt, SW cor. Section 27, is drilling at 3,640 feet with nothing showing. The owners report the test running about 15 feet higher than the gas well. Other tests in the area that were abandoned on account of encountering granite were the Barnsdall Oil Co.'s No. 1 Brock, C SE SE, Section 21-17-17w, Rush County, which had granite at 3,606 feet, and the Wilcox Oil & Gas Co.'s No. 1 Schwartkopf, in Section 27-17-17w, Rush County, which also drilled into granite without finding any gas production. Sinclair Oil & Gas Co.'s No. 1 Seur, C SW NW NW Section 8-18-17w, Rush County, is reported to be running low on structure while drilling ahead at 3,550 feet.

Butler County

Maxwell Petroleum Corp.'s No. 1 Maxwell, SW cor. NE, Section 31-24-4, made 25 bbls. in sand 2,691-2,704 feet. Empire Oil & Refining Co.'s No. 7-B Hutchinson, SE cor. NW NE, Section 27-27-5, was completed for 310 bbls. in sand 2,728-69 feet. Leonard Petroleum Co.'s No. 6 Kinney, NE cor. SW SE, Section 29-26-5, made a 25-bbl. well in sand 2,706-18 feet. H. B. Garden's No. 4-B Sliss, CWL NE NW, Section 6-27-6, has been completed for 35 bbls. in sand 2,736-59 feet. Rosenthal and others' No. 4 Marshall, SE cor. NE NW, Section 10-27-6, was completed for 75 bbls. in sand 3,102-12 feet.

Cowley County

The Texas Company is erecting the rig for No. 15 Eastman, NE cor. SW NE, Section 6-31-6. Roth & Faurot moved the rig in for No. 1 McEwin, SW cor. SE, Section 7-32-5.

Continental Oil Co., Hiatt and others' No. 1 Fee, SW cor. NE, Section 8-31-8, is dry and abandoned at 3,128 feet. Krow White's No. 1 McEwin, C SE SW, Section 4-32-5, has been completed for 250,000 feet of gas in sand 690-700 feet. Foster and others' No. 1 Refinery site, NW cor. Section 36-34-3, is dry and abandoned at 2,100 feet.

The Prairie Oil & Gas Co. made location for No. 1 Catlet, SE cor. SW SE, Section 9-32-4.

Chautauqua County

E. B. Miller's No. 2 Wiggam, SE cor. Section 33-32-10, is drilling at 410 feet. No. 3 Wiggam, NW cor. SE SE, Section 33-32-10, is a location.

Chase County

Chriss Sheedy made location for No. 1-B Hugh, NE cor. SE, Section 24-21-9. Selby Oil & Gas Co.'s No. 7 Schambaugh, SE cor. NE, Section 35-22-9, has been completed for 20 bbls. in sand 2,454-93 ft.

Elk County

Denton and others' No. 3 Elstun, SE cor. NW NW, Section 15-31-10, is rigging up.

Ellis County

Phillips Petroleum Co. is erecting the rig for No. 1 Harjo, SE cor. NW, Sec. tion 9-13-19w. The rig is on the ground for No. 2 Johnson, SE cor. SW NE, Section 9-13-19w.

Greenwood County

Phillips Petroleum Co.'s No. 1 McCray, SE cor. NE, Section 9-22-10, is dry and abandoned at 2,465 feet. Transcontinental Oil Co.'s No. 5 Pixlee, C NW NE, Section 10-22-10, has been abandoned at 2,323 feet. The Prairie Oil & Gas Co.'s No. 2 Brown, NE cor. SE NW, Section 11-22-10, is dry and abandoned at 2,221 feet. Empire Oil & Refining Co.'s No. 2-A Norton, NE cor. NW NE, Sction 22-22-12, was completed for 45 bbls. in sand 1,777-93 feet. The Prairie Oil & Gas Co.'s No. 3 S. Johnson, CNL SE SW, Section 15-24-12, made 30 bbls. in sand 1,652-68 feet.

Harvey County

The Prairie Oil & Gas Co.'s No. 1 Gatz, NW cor. SE, Section 36-22-1, is dry and abandoned at 3,509 feet.

Kingman County

D. P. Fleeger's No. 1 Roye, SE cor. NE SE SW, Section 16-27-7w, is spudding.

McPherson County

The Texas Company is building the rig for No. 1 Munn, NW cor. NE, Section 12-20-2w. The Prairie Oil & Gas Co. made location for No. 1 Krehbiel, SE cor. Section 4-21-3w.

Russell County

Empire Oil & Refining Co. and others made location for No. 1 Ochs, SE cor. NE NE, Sction 23-15-14w. Pryor & Lockhart's No. 1 Sellens, NW cor. SE, Section 36-15-13w, is a rig being built. The Prairie Oil & Gas Co. made location for No. 1 Brungardt, NW cor. SW NW, Section 31-12-15w. Location was also made for No. 1 Sellens, NE cor. SW, Section 36-15-13w.

Sedgwick County

Bu Vi Bar Petroleum Corp.'s No. 7 Wright, NW cor. NE SE, Section 12-26-1w, Valley Center Pool, is rigging up. No. 9 Shawver, SW cor. NE NW, Section 7-26-1, is also rigging up. Continental Oil Co.'s No. 1 Black, SW cor. SE NW Section 16-25-1, made 200 bbls. in sand 3,009-12 feet. Bu-Vi-Bar Petroleum Corp.'s No. 5 Corr, NW cor. SE, Section 1-26-1w, was completed for 1,100 bbls. in sand 3.348-55 feet. No. 1 Reed, SE cor. Section 1-26-1w, made 950 bbls. in sand 3,371-78 feet. No. 2 Lantz, SE cor. Section 12-26-1w, was completed for 18 bbls. in sand 3.365-70 feet. No. 7 Shawver, NW cor. Section 7-26-1, made 760 bbls. in sand 3 357-65 feet. No. 1 Miles, NE cor. SW SW NE, Section 7-26-1, was completed for 93 bbls. in sand 3,374-77 feet.

Patton & Wentz's No. 1 Swenson, NW cor. NE, Section 6-26-2, produced 190 bbls. from sand 3.005-10 feet. Blankenship & Washoma Oil Co.'s No. 1 Tuttle, SW cor. NW, Section 1-27-1, is dry and abandoned at 3,410 feet. Magnolia Petroleum Co.'s No. 1 Wise, NW cor. Section 36-28-2w, has been abandoned at 3,890 feet. George P. Dickey and others' No. 1 Nolan. SE cor. NE, Section 20-28-1, flowed 252 bbls. in sand 3,081-3,100 feet. Hartman & Skaer's No. 1 Campbell, NW cor. SW SE, Section 21-28-7, is dry and abandoned at 3.540 feet. Shell Petroleum Corp.'s No. 1 Nolan, SW cor. NW, Section 21-28-1, has been completed for 160 bbls. in sand 3 081-05 feet.

Sumner County

Champlin Oil & Refining Co.'s No. 2 Love, NE cor. NW SW, Section 9-30-2w, made 70 bbls. in sand 3,033-45 feet. De Forest Oil Co.'s No. 3 Frantz, C NW NE Section 35-30-2w, is dry and abandoned at 3,105 feet.

ROCKY MOUNTAIN AREA

(Continued from Page 76)

others' No. 1 Wingo, NE SW Section 17-26-11e, is drilling at 320 feet.

In Rio Arriba County, Berringer and others' No. 1 Hartman, NW cor. NE Section 8-29-7w, is drilling at 600 feet and carrying the 12½-inch after shutting off water, and L. E. Elliott's No. 1, NW NE Section 26-21-9e, is bottomed at 1,030 feet and underreaming the 8¼-inch to shut off water sands at 945-50 and 955-75 feet.

UTAH

While several of the Utah wildcats are at interesting stages, the week failed to bring about any unusual developments. The Continental Oil Co.'s No. 1 Boundary Butte, Section 22-43-22, San Juan County, made somewhat better progress and is drilling at 5,300 feet. Approximately 14,000,000 feet of gas is coming up through the smaller string of casing while some of the flow is cased off. The Phillips Petroleum Co.'s No. 1 Shick, Section 16-27-16, Wayne County, is bottomed at 5,090 feet with the hole full of water and the 6¼-inch again will be underreamed and lowered. It is believed the hole is now bottomed below the water formation and that better progress will be made after it is cased off. The drill is working in the lower Pennsylvanian. The Utah Southern Oil Co.'s No. 1 King, Section 13-23-20, Grand County, has been cleaned to bottom at 3,800 feet and the 6¼-inch has been run to 3,775 feet.

The Diamond Oil Co.'s No. 4 Diamond Fork, Section 16-8s-5e, Utah County, has encountered more water at 500 feet and is lowering the 12½-inch for a shutoff. The Maude Ellen Oil Co.'s No. 1, Section 28-3s-21, Uinta County, is bottomed at 1,610 feet in a water sand and waiting for casing. The Boulder Knoll Oil & Gas Co.'s No. 1 Endter, Section 17-34-25, San Juan County, is drilling at 2,700 feet and reports oil colors showing on the salt water, the latter slowing decreasing while the gas has slightly increased. The Utah-Pennsylvania Coal Co.'s No. 1, Section 3-10n-4w, Box Elder County, is bottomed at 3,000 feet and waiting for new drilling line. The Leonora Mining & Milling Co.'s No. 1, Section 9-8n-7w, Box Elder County, is drilling at 2,321 feet in gray sandy shale, and the Leonora-Raddatz Syndicate's No. 1, Section 14-9-8, is shut down at 2,230 feet with the 6¼-inch at 1,936 feet.

COLORADO

Colorado had an important completion in the Wellington Field in Larimer County, in the Continental Oil Co.'s No. 1 Fleming, NW SE NW, Section 6-9n-68, which barely topped the Muddy sand at 4,225 feet and commenced flowing over the top with a heavy gas pressure back of the oil. It was at once shut in and no test has been made nor estimate of what it will do. The gas pressure was so heavy there is a question whether it will make a gas or oil well, but it will be recalled the big gassers on this dome drilled in several years ago made oil with the gas almost from the start. The important feature of the new strike is that it is not only one of the highest wells on the structure based on sea level datum, but that it proves up new territory. It is located almost one-half mile due west of No. 1 Mitchell, completed in 1924 at 4,216 feet as an 80,000,000-foot gas well, 1¼ miles due south of the discovery well which started the big drilling campaign in Colorado in 1924, and three-fourths of a mile north of No. 1 Scott, the nearest producer. The tract upon which the well is located, a 160-acre lot, was in litigation for some time and remained undrilled until after the State Supreme Court had decided in favor of the interests from which the Union Oil Co. of California held the lease. The Union company last year sold its holdings in that district to the Continental Oil Co. The Fleming well appears to have topped the sand at 1,198 feet above sea level, compared with 1,195 feet in the discovery well, 1,200 feet, in No. 1 Mitchell, and 911 feet in No. 1 Scott. The only other operation under way at this time is the Continental's No. 4 Scott, NE SE Section 6-9n-68, which is rigged and ready to spud.

Moffat County

Moffat County also had a completion in the Texas Production Co.'s No. 36 Lloyd, SE cor. Section 21-4n-92, on the southwestern flank of the Iles Dome. This well was drilled to 3,882 feet, 214 feet below the top of the Sundance, the objective, but failed to find commercial production. It was plugged back to 3,640 feet to test a show in the Morrison, and following a shot and cleaning out, it has been put on the pump and made 108 bbls. the first 24 hours. While it limits the Sundance area on that side of the structure, the results in the Morrison were rather surprising. The Midwest Refining Co.'s No. 24-SD Parkinson, SE NW Section 22-4n-92, Iles Dome, has been cleaned out to 3,240 feet after plugging back to 3,492 feet. Thomas McLaughlin and others' No. 1 Williams, NW SW Section 2-3n-92, is drilling at 3,900 feet in lime. The Texas Production Co.'s No. 1 Berlin, SW NE Section 19-12n-100, Bartram Dome, is bottomed at 985 feet and underreaming.

Two completions were reported in Fremont County, both by the Continental Oil Co. Its No. 6 McKenzie, NE SW Section 1-19-70, was plugged back to 1,850 feet and pumped 10 bbls. initial, and its No. 4 Vezetti, NE NE Section 11-19-70, was deepened to 2,045 feet and started off at 100 bbls. a day. This company is spudding in its No. 6 Ben Steinmier, SE SW Section 35-18-70. All three of these wells are in the Canon City Pool.

In Rio Blanco County, the White Eagle Oil & Refining Co.'s No. 1-A Fordham, NW SW Section 9-2s-96, Pieance Creek structure, a test of the Tertiary formations, is drilling at 1,560 feet and has had shows of gas from 1,400 feet on with rainbows showing on the bailings. This test recently passed through 300 feet of maltha, not a dead oil, but what appears to be a residue after the lighter fractions have disappeared. The Texas Production Co.'s No. 1 Potter, C NE SW Section 30-2n-96, White River Dome, also a Tertiary test, is bottomed at 116 feet and working the 16-inch pipe. No. 1 Dick, a well being drilled close to the deep test to supply gas for fuel, is drilling at 595 feet.

In Jackson County, the Midwest Refining Co.'s No. 21-X Rich, SW NW Section 9-6n-80, Buffalo Creek, is bottomed at 720 feet and running 15½-inch. The Producers & Refiners Corp.'s No. 1 Hendershot, SE NE Section 2-6n-81, Pole Mountain, is drilling at 2,010 feet.

Routt County

In Routt County, the Midwest Refining Co.'s No. 10 Barmettler & Clayton, NE NW Section 4-7n-86, Chimney Creek Dome, is running the 12½-inch at 740 feet. This test, which is headed for the Sundance, is close to the Frontier which showed 4,000,000 feet of gas in a test drilled several years ago. The Texas Produciton Co.'s deep test on Tow Creek, No. 4 Belle Dennis, NE SE Section 7-6n-86, is bottomed at 5,307 feet and changing over to cable tools. It has been coring with a 5⅜-inch rotary bit.

In Adams County, east of Denver, Nettie M. Slatt's No. 1 Hills, SE cor. Section 27-3s-64, set the 22-inch surface pipe at 80 feet, topped a 25-foot vein of coal at 87 feet, and is drilling at 400 feet. It is planned to carry the 15½-inch to around 700 feet before setting it.

In Weld County, the Platte Valley Petroleum Co.'s No. 1 Patterson, SW SW Section 24-6n-61, Greasewood Dome, is bottomed at 4,400 feet and waiting for cement to set. It has been troubled for some time with cavy ground and this is the fifth cementing job below the 6¼-inch at 4,000 feet.

In Yuma County, the Phillips Petroleum Co.'s No. 1 Andrews, NW NW Section 3-2s-42, Rosenkrantz Dome, is drilling at 1,500 feet, and Major Petroleum, Inc., No. 1 Winegar, SE NW Section 7-2s-43, Blackwolf structure, is drilling at 1,350 feet and carrying the 12½-inch.

The Marland Production Co.'s No. 1 Pipe Springs, NE SE Section 27-27-49, Bent County, is drilling at 4,400 feet and is through a thin stratum of arkose and back into lime and shale.

Unidentified parties are reported to have rig up for a well in Pueblo County, southwest of Fowler and 4 miles north of White Rock. This is approximately on the Yellow Banks Dome, which has been tested through the Dakotas twice but not drilled to the Morrison and deeper formations.

WYOMING

Favorable and unfavorable results in drilling wells were about equally divided in Wyoming. The best news came from the extreme southwestern and northeastern parts of the State. The North American Oil Co.'s No. 2, SE SW SE Section 22-15-118, on the Spring Valley structure in Uinta County, supplied the principal news from the southwestern corner. This well was started last May a year ago by Oscar Peterson and associates and was drilled to a sand at 2,330 feet which showed for a producer of high gravity oil. At that time the oil rose 1,300 feet. The well was shot, but, instead of increasing

the flow, water came in. Recently the operation was taken over by the North American Oil Co. of San Francisco, with B. E. Taylor in charge of operations. The water was shut off and drilling was resumed. It is reported to have topped a sand at 2,527 feet and to have drilled in 3½ feet, the oil rising 1,500 feet in the hole. In a short bailing test it made 10 bbls. an hour without lowering the column. The well was then shut in and B. E. Taylor left for San Francisco to confer with the operators, making part of the trip in an airplane.

In the northeastern part of the State, the Osage Oil Trust Co. has what appears to be a good well in the SW Section 14-46-64, in the Osage Field in Weston County. It entered the sand at 1,637 feet and the oil slopped over the top. It was shut in for connections with the Illinois Pipe Line Co.'s line. It may make as high as 250 bbls. initial. The Mountain Fuel Supply Co.'s No. 1 Otto Arnold, NE Section 24-19-104, on the Middle Baxter Basin structure, 6 miles east of Rock Springs in Sweetwater County, found gas in the top of a sand in the Morrison formation below 3,500 feet. Drilling was suspended to run the 6⅝-inch casing before drilling in. No estimate of what the well will do can be made at present but it looks very favorable. This test was dry in the Dakota series except for a stray water sand above the main Dakota. Drilling was continued with the Sundance as the objective.

Poison Spider District

The Fargo-Western Oil Co.'s No. 11, NE NW, Section 3-33-83, Poison Spider district, west of Casper, was completed at 2,585 feet in the Tensleep and is estimated good for 200 bbls. It was an old gas well deepened to the Tensleep. It is located in the saddle between the Poison Spider and North Casper Creek Domes and proves up about 200 acres for the company. The Cross Gas Co.'s No. 1, NW NW Section 23-56 97, on the Byron Dome in Big Horn County, was completed at 4,230 feet and is pumping 90 bbls. The oil is about 31 gravity. This well attracted attention last May when it entered a sand at 4,207 feet which looked like a good producer, but when the water was cased off and the hole deepened a little, it was found the sand was only 4½ feet thick. It was then drilled to 4,230 feet and picked up more oil sand. The horizon probably is in the red beds. The unfavorable news included the Producers & Refiners Corp.'s No. 1 Rand, SE cor. NW Section 7-57-97, on the Sage Creek or South Frannie Dome in Park County, just 3 miles southeast of the Frannie structure where the Midwest Refining Co. has two producers. The No. 1 Rand is being abandoned at a total depth of 2,836 feet. Above this depth at 2,680 feet it was 4 feet in a sand which showed some oil and considerable gas through several hundred feet of water, but which a test proved to be uncommercial. The horizon last drilled was not identified, but probably is the Embar. The same company's No. 1 Hill, to the southeast of the abandoned well and on the same section, is shut down at 607 feet. The Producers & Refiners' No. 1, NE NE Section 14-25-89, on the Sherrard Dome in Carbon County, also is being abandoned at a total depth of 3,477 feet. It had gas in several upper horizons, including the Frontier, but not in very large quantities.

Salt Creek Deep Test

The Midwest Refining Co. is beginning work on the deep test in Salt Creek which will be drilled to the granite regardless of what results may be encountered in the different horizons penetrated. It is located in the NW Section 35-40-79. It is expected that the Embar, Tensleep and Amsden sands will be tested under 6,500 feet.

In Fremont County, the Texas Production Co.'s No. 1 State, SW SW Section 36-34-95, Alkali Butte, is fishing for bit at 425 feet. The Producers & Refiners Corp.'s No. 2, Section 9-32-95, Sand Draw, has 57 joints of the 5⅞-inch pipe which parted, out of the hole, and its No. 7, Section 14-32-95, bottomed at 2,917 feet and backing off drill rods, 2,310 feet being out.

In Sweetwater County, the Mountain Fuel Supply Co.'s No. 1 Hay, Section 26-17-104, South Baxter Basin, is drilling at 485 feet, and its No. 1 Murphy, Section 26-17-104, is drilling at 1,605 feet. Same company's No. 1 Newberry, Section 13-12-100, is drilling at 1,770 feet and its No. 1 Humphreys, Section 2-12-101, Canon Creek, is bottomed at 4,033 feet and cementing cavy ground.

In Lincoln County, the Midwest Refining Co.'s No. 1, Section 25-37-117, Little Gray River, is bottomed at 999 feet and mixing and running mud, and its No. 1, Section 35-22-115, Waterfall, is drilling at 3,725 feet in sandy shale. The Italo-American Petroleum Co.'s No. 1 Neil, Section 14-24-113, Fontenelle district, is drilling at 198 feet, and Reeves Aylmore and others' No. 1 Higgins, Section 7-21-119, Sage Creek, is drilling at 645 feet in gray shale. Susie J. Quealy's No. 1 Quepfe, Section 20-21-115, Waterfall, is drilling at 820 feet with a show of gas, and her No. 2, Section 21-21-115, is spudding at 50 feet.

In Sublet County, the California Co.'s No. 1 Wyss, Section 12-32-115, South Cottonwood, is drilling at 2,433 feet in black shale, and the Great American Oil Co.'s No. 1, Section 35-30-115, Snyder Basin, is drilling at 920 feet.

Uinta County

In Uinta County, the California Co.'s No. 1 Union Pacific, Section 7-17-116, Muddy Creek, is drilling at 3,192 feet in red sandy shale, and Minton and others' No. 1, Section 8-18-116, Cumberland Dome, is drilling at 1,014 feet. The Ensign Oil Co.'s No. 1 Shepherd, SE cor. SW, Section 8-13-119, Hilliard Flats, spudded and shut down at 20 feet, and H. A. Rispin's No. 1 U. P., SW cor. SE Section 5-16-117, at Leroy, is skidding rig and starting No. 1-A P. L. Cooper, and others' No. 1, Section 19-18-117, La Salle district, has resumed at 984 feet, and the Park City Oil & Gas Co.'s No. 1 Christensen, Section 6-15-113, is drilling at 1,015 feet. It had a small show of gas at 965 feet. The Ensign Oil Co.'s No. 1 McCoslin, Lyman district, SW SE SW Section 32-16-113, has cellar dug, and the Winton Oil Co.'s No. 1 Colona, Section 23-14-118, Piedmont district, is shut down at 1,200 feet working bad casing.

In Carbon County, the Producers & Refiners Corp. is moving in machine for a test on Section 28-21-86, on the Grenville Dome, east of Rawlins, and is running foundation for No. 2, Section 34-26-88, on the Mahoney Dome. Same company's No. 3, Section 2-19-88, Hatfield Dome, is fishing for bit at 3,970 feet, and its No. 8, Section 7-26-89, on the Wertz Dome, is bottomed at 3,958 feet and rigging up rotary.

In Big Horn County, the Producers & Refiners' No. 3, Section 24-56-98, Garland Dome, is bottomed at 3,756 feet and running the 6¼-inch. It is about on top of the Embar. The Ohio Oil Co.'s No. 1 Easton, Section 33-56-97, Byron Dome, is drilling at 2,237 feet.

In Hot Springs County, the Texas Production Co.'s No. 1, Section 23-45-100, Skelton Dome, cemented the 10-inch at 2,828 feet.

In Natrona County, the Prairie Oil & Gas Co.'s No. 1 Baird, NE SW Section 22-31-81, Clark Dome, is through the Lakota, which carried water, and set the 10-inch at 1,685 feet.

IDAHO

Signs of increased activity in Idaho are apparent. The California Co.'s No. 1 Sorensen, NW SW Section 33-3n-41, Meadow Creek structure, Bonneville County, is drilling at 3,179 feet in gray lime after cementing the 10-inch at 3,000 feet. The Grand Teton Oil Co.'s No. 1 Blevins, SW Section 33-5n-44, Horseshoe structure, Teton County, joint with the Standard Exploration Co., is drilling out cement. The 15½-inch was cemented at 515 feet. The hole is bottomed in the Frontier formation. Roy Zuvor, formerly with the Associated Oil Co. in Wyoming, is in charge of operations.

The Great West Oil Co.'s No. 1, Section 34-7s-46, Afton structure, Caribou County, is reported preparing to resume. This well was drilled to 2,641 feet last year when it was shut down to finance. The tools are at the bottom. Considerable salt was drilled through. Norton Brothers' No. 1, Section 19-10s-37, Arimo structure, Bannock County, is drilling out cement. Casing was set to shut off water sand at 2,200 feet.

The Dewey interests, with whom are affiliated a group of Seattle capitalists, have blocked out a large acreage on the Beaver Dome, a large structure approximately 60 miles north of Idaho Falls. It straddles the Idaho-Montana boundary a part being in Clark County, Idaho, and the remainder in Beaverhead County, Montana. Charles H. Stone, petroleum geologist of Butte, is completing the geological work and F. G. Ostland of Billings, has signed contract to begin drilling within 90 days.

MONTANA

Sunburst Field had 11 completions the past week, 4 being gas wells, 4 commercial producers and 3 doubtful. The Hannah Porter well on Section 35-34-1 came in a gas well in Sunburst sand about 1,400 feet and is rated good for 8 000,000 feet. The Northern Natural Gas Co. has a new gasser on Section 3-32-2 good for 12,000,000 feet. The Dakota Montana Oil Co. had a gas well in the stray sand later drilled into the Ellis, finding water. The well is now being plugged back to the gas. The Moore Oil Co. also has a gasser on the west side of the field near the Dakota Montana that will make about 6,000,000 feet.

The Texas Pacific on Section 22-35-2 has a showing of oil in black lime formation below the Ellis sand and will shoot to see what it will make. The Cosmos Petroleum Co. has a showing and is making a test on Section 20-35-1. The P. M. K. Oil Co. has a small producer on Section 19-35-1 that will do about 15 bbls. from the Ellis and the Ogden Kevin Oil Co. has a similar producer on the same section. The Fifty Six Petroleum Co. has a good well on Section 18-35-1 swabbing around 50 bbls. from the Ellis sand. The Bears Den wildcat in the Sweetgrass Hills, reported showing for a commercial well, is having a pumping test.

The Potlatch deep test on Section 21-34-1 in the Sunburst Field is nearing 4,700 feet and had a showing of oil in the Devonian at 4,670 f.. This test is now below any wells ever drilled in Sunburst Field. The Texas Pacific also expects to drill a well to about 5,000 feet in the Sunburst Field.

The Vashti Petroleum Co. found a gasser in a new area, on Section 33-28-1, estimated good for 7,000 000 feet. The location is just north of the city of Shelby and the company has about 5,000 acres.

Pondera Field

In Pondera Field interest is centered on two wildcats being drilled by the Texas Pacific. One is located on the Pendroy Dome about 5 miles west of the Pondera Field and the other on Acme Dome southwest of the Pondera Field. Should either well come in with production it would mean the Pondera area is going to be spotted with small pools rather than one continuous field.

The shallow wells near Great Falls on the Black Horse Lake Dome being drilled by the U. S. Petroleum Co. and the Eden Oil Co., are drilling deeper.

Operators and lease holders in the Bannatyne Field are considering pooling their interests and drilling a deep test. The geologists hold that productive sands should be found around 4,500 to 5,000 feet and as all the companies interested are rather small, a move has been started to get together and test this theory of a deep pay.

The Continental Oil Co. owns practically all the wells in the Cat Creek Field and is now producing about 83 wells there. The company's geologists are reported to be advocating a deep test for Cat Creek with the idea that oil may be found in the Ellis sand which has never been tested there.

ROCKY MOUNTAIN FIELDS

Daily Average Pipe Line Runs Week Ending July 20

WYOMING

Salt Creek	29,520
Frannie	50
Big Muddy	2,280
Oregon Basin	5,620
Byron	....
Dutton	30
Elk Basin	770
Ferris	....
Grass Creek	2,180
Greybull	....
Hamilton	1,000
LaBarge	2,490
Lance Creek	210
Lost Soldier	4,110
Osage	360
Poison Spider	920
Rock River	2,360
Rex Lake	90
Lander	350
Simpson Ridge	60
Teapot Dome	30
Mule Creek	600
Total	53,130

MONTANA

Cat Creek	1,430
Kevin-Sunburst	6,860
Pondera	3,220
Lake Basin	90
Total	11,600

COLORADO

Moffat	1,475
Fort Collins	2,214
Florence	925
Iles	1,730
Tow Creek	450
Boulder	25
Rangely	100
Total	6,919

NEW MEXICO

Artesia	875
Cap Rock (Maljamar)	454
Hogback	110
Rattlesnake	800
Table Mesa	....
Total	2,239
Grand total	73,888

FEDERAL COMMISSION ACTS ON CODE OF ETHICS

(Continued from Page 53)

livery for such deliveries at the time of delivery.

Retailers and other operators serving consumers through service stations, garages, curb pumps, or pumps located at bulk plants, shall conspicuously post, at the place from which delivery is made, prices at which gasoline, kerosene and motor oils are sold.

No seller shall make any deviation from its posted prices (whether wholesale or retail) by means of rebates, allowances, bonuses, concessions, benefits, unusual credits, scrip books, or any plan, device or other scheme which may directly or indirectly permit the buyer to obtain gasoline or kerosene at a lower net cost to him.

Commercial accounts, whether for delivery at service stations or otherwise, may be recognized as an exception to this rule in sections where they are now in vogue, but shall apply only to written contracts for charge accounts.

Rule 18 (formerly Resolution 10).

The practice of making deliveries of gasoline at refineries or wholesale plants into tank wagons or trucks operated by or for the purchasers thereof, is discouraged.

Rule 19 (formerly Resolution 11).

Coupon books or other scrip of any nature, if used, shall be sold and redeemed at their face value without any discount.

Rule 20 (formerly Resolution 13).

On a change in the posted price, no adjustments, allowances, credits or refunds shall be given to any buyer on deliveries already made.

Rule 21. Definitions.

For the purpose of this code, the following definitions are adopted:

(a) Consumer. One who destroys the exchangeable value of a commodity by using it. He is an eligible buyer from service station, tank wagon, tank car or in packages.

(b) Refiner. One who refines crude petroleum and natural gas into refined products.

(c) Jobber, distributor or wholesaler. One who carries a stock of petroleum products to sell to retail dealers or others for resale, but who may also sell direct to consumers.

(d) Retail dealer. One who carries a stock of petroleum products to sell to the consumers only.

(e) Commercial accounts. Petroleum products sold to persons, firms or corporations using commercial vehicles in transportation or delivery of passengers, merchandise, freight or express, for use only in such vehicles properly licensed by public authorities for those purposes.

By the committee:

OTIS B. JOHNSON,
Secretary.

OKLAHOMA CITY POOL HAS ITS PROBLEMS

(Continued from Page 55)

tools as almost completely to plug off the gas.

This was in effect a bridge in the casing, and when they succeeded in breaking it loose, the confined gas again rushed up the hole and carried the second string of tools and line ahead of it so that another fishing job was in order to remove the second string of tools from the casing.

It has been said that history will repeat itself and it certainly did in this well for in fishing out the second string of tools the same set of conditions was encountered as occurred in the first fishing job and the third string of tools was caught when the plug formed in the casing by the second string and its line was drilled out.

So now they are fishing with the fourth string of tools and praying for luck.

Methods of Finishing Wells

This experience is not unique in this field for other wells have had almost the same series of conditions but that does not make it any more pleasant and the superintendent in charge of drilling operations in that field are now planning to try some of the following methods of finishing these wells.

These high pressure gas pockets seem to be characteristic of this area and nearly every well drilled so far has at one time or another been faced with the problem of drilling into and through them.

Most superintendents seem to be rapidly coming to the practice of completing the rotary hole in the usual way and setting the casing as deep as possible, then cementing and bailing mud until the string is clear.

The casing is then checked for tightness and later filled with water before the drilling of the cement plug is started.

In some cases the gas has been encountered as the plug was being drilled out and the pressure and volume was great enough to blow the hole clear of all water.

In other cases the gas pressure has not been enough to clear the hole of water but it seems there have been two opposing forces at work at the bottom of the hole, the hydrostatic head of the water downward and the gas pressure upward, so that the cable tools could not be made to drill and it was necessary to shut down until the gas pressure relieved itself by slowly blowing off through the water.

To illustrate how this balance might be attained it is assumed that the hole is just 6,000 feet deep and full of fresh water with a weight of .433 pounds per foot of height or a total pressure of 2,598 pounds per square inch is effective at the bottom of the hole where the bit is drilling.

When the hard crust is broken through or the cement plug drilled out to a thickness where the gas can break through it will exert, according to some authorities, a pressure of about 2,300 pounds per square inch, or the balance is only about 300 pounds per square inch in favor of the hydrostatic head, but this is enough to hold the gas under control.

Adding Salt to Water

Some operators have been adding about 20 per cent salt to the fresh water and thereby making the solution have a specific gravity of about 1.15 or the weight per foot of height volume equal to .498 pounds per square inch and for a column of water 6,000 feet deep the total pressure per square inch at the bottom would be about 2,988 pounds, a gain of about 390 pounds over a fresh water column. This should throw the balance enough in favor of the hydrostatic head to control nearly any gas pocket that might be found in this area, providing the volume of the gas compressed is not too great.

One company is considering the use of a duplex steam pump with the 17-inch diameter steam end and 2-inch diameter water end and 15-inch stroke with a normal rating of 2,500 pounds per square inch at 100 pounds steam pressure but it will develop considerably more if the full steam pressure of the boilers used in the Oklahoma City Field is used.

With such a pump it should be possible to force mud into a hole against the gas pressure developed during drilling operations, but all operators do not agree with this practice and prefer to "lubricate" the mud in and for this purpose various types of lubricators have been rigged up at the wells and one form is shown in pictures included in this article.

The matter of delivering mud to a rotary well, for the purpose of maintaining a certain weight of mud-laden fluid for drilling and also as a lubricator to shut off gas, is sometimes of considerable importance.

There are several mud wagons in the field that are kept busy picking up mud at some of the slush pits and hauling it to the rig where needed and one method of moving the mud from the pit to the wagon is by use of a steam jet system.

A 2-inch pipe is run from a field boiler set at some convenient place near the slush pit and the end of this line is fitted with a set of nipples and elbows so arranged that the live steam is discharged into the open end of a piece of 6⅝-inch casing that delivers the mud into the body of the truck when the steam is turned on.

The soil around a slush pit is usually more or less water soaked or a good grade of mud, so after this special truck has been loaded with several hundred pounds of mud from the pit the next problem is to move the truck out to the road, and this is accomplished by the assistance of a tractor of the caterpillar type.

Very High Pressure

The Oklahoma City South Field has been notable for the fact that it has had several very large gas wells, some estimated as high as 75,000,000 feet per day, and most of this gas has been found under conditions that indicate that the pressure at the producing horizon is very high, perhaps as high as 2,500 pounds per square inch.

This condition is causing some serious problems in cable tool drilling in the formation below the casing point for the 6⅝-inch casing, and in some cases it seems the gas is of rather small volume but under this high pressure is dangerous and in other cases it is both high pressure and large volume, which naturally adds to the troubles of the production man.

If the gas is under a pressure of 2,500 pounds per square inch, this is the equivalent to approximately 171 expansions to reduce it to atmospheric pressure, and under such a condition if the limestone formation has a porosity of 25 per cent and the formation is 1 foot thick the amount of gas for each acre of area would be approximately 1,862,190 cubic feet. Twenty-five per cent porosity is perhaps low for this producing area.

Drilling into such a reservoir of gas presents possible trouble because, as previously stated, it blows the tools up the hole and fouls the line and it is quite possible for it to form a bridge in the casing in such a way that this very high pressure gas could be suddenly confined and in endeavoring to escape to the atmosphere might cause a blowout around the casing, and such blowouts are never easy to control and sometimes they are quite dangerous as witnessed by many fires that have started after such conditions have been set up.

Sinclair-Amerada's No. 1 Kinter is being produced under a back pressure at the well head of about 1,250 pounds per square inch, and this pressure is reduced in the oil and gas separators to about 100 pounds.

By this method of handling the well is making from 1,400 to 1,700 bbls. of oil per day that has a gravity of from 67 to 71 A.P.I. scale and about 70 per cent of this liquid as run to the pipe lines is heptane C_7H_{16} or heavier.

The lead line from the casinghead to the oil and gas separators and the separators themselves with the gas lines from them to the atmosphere are covered with a coating of frost even with the atmospheric temperature around 96 degrees Fahrenheit.

Condition of Frost

There are two ways to account for this condition of frost and it is quite possible both enter into this particular problem. They are refrigeration, by the cooling of the atmosphere around the lines and separators by removing of heat from the air due to the work being done by the expansion of gas from 1,250 pounds to 100 pounds pressure, and the other, the refrigeration effect caused by the evaporation of the lighter ends of the liquid produced by the well.

These gases are probably similar to the usual gas found along with the sweet oils and are made up of butane, propane, ethane and methane, with the methane predominating.

With pressures underground as high as 2,500 pounds, and this well has been shut in to 2,050 pounds, when it was considered unsafe to back pressure further for fear it would break loose, it is possible to conceive of a condition where the critical pressure and temperature of these gases would be reached and they would be reduced to liquids, or at least all of the butane, propane and ethane, and a portion of the methane would be carried down due to the law of partial pressures.

Butane boils at 1 degree Centigrade or is a liquid at atmospheric pressure and temperatures, while propane has a critical temperature of 97 degrees Centigrade (206.6 degrees Fahrenheit) and a critical pressure of 647 pounds per square inch.

Ethane has a critical temperature of 35 degrees Centigrade (95 degrees Fahrenheit) and critical pressure of 664 pounds per square inch and has a boiling point of −84.1 degrees Centigrade.

Methane is the most difficult of all these gases to liquefy for it requires a pressure of 735 pounds per square inch and a temperature of −95.5 degrees Centigrade and its boiling point is −150 degrees Centigrade.

Brundred's Views

L. L. Brundred, in a paper entitled "Introducing Gas and Air to Increase Normal Recovery," presented before the A.I.M.E. and published in "Petroleum and Engineering," 1926, states:

"Experience has taught that the pressure on the sand, commonly called rock pressure, is in almost all cases dependent upon the depth of the horizon. . . . In general, let us consider the fact that crude oil is made up of a series of volatile hydrocarbons.

"The heavier fractions liquefy at nominal pressures. Even the lighter fractions will liquefy at some point. A brief list of the most common gases together with their liquefying pressures follows:

	Lbs.
Methane, approximately	2,000
Ethane, approximately	475
Propane, approximately	100
Bu.ane, approximately	15
Pentane, approximately	0

"Chemistry tells us that these gases liquefy at these pressures when treated separately, whereas, when treated in conjunction with the heavier gases commonly found in crude oil, the process of liquefaction is hastened and occurs at lower pressure.

"Actual experience has taught that these lighter hydrocarbons are produced in larger volume during the initial flush production period of a field than later on, when the rock pressure has been materially reduced.

"This is due to the more ready vaporization of the lightest fraction when the pressure on the sand is reduced by the open or partially restricted flow of the well."

If these facts are substantiated the condition that causes refrigeration at the oil and gas separator is due to the evaporation of the lighter hydrocarbons which quickly pass into a gaseous state as the pressure is relieved and in so doing act under the same conditions as apply to the manufacture of artificial ice by the use of ammonia, carbon-dioxide, methylchloride or sulphur-dioxide.

In this instance it seems that formation of the heavy coats of frost on the pipe lines, separators and decks of the lease storage tanks is best explained by the work of refrigeration rather than to assume this freezing is done by the expansion of the gases as they reduce pressures from 2,500 pounds to atmospheric in passing from the formation to the air.

The fact that frost is formed on the deck of the bolted steel lease storage tank confirms this theory for at that point the great volume of gas that has accompanied the liquid from the well to the separators has passed on to the atmosphere, but the liquid is still changing to vapor because of pressure reduction going on after it leaves the separator at 100 pounds pressure and enters the tanks, and this change is permitting the lighter hydrocarbons to escape, and they can be seen leaving the thief hole of the tanks and feel very cool to the skin and deposit a thin film of light oil upon any surface interposed in their path.

Interesting Possibility

There is one interesting possibility to be considered in this Oklahoma City area of high gas pressures and that is the work that can be done underground if this gas is compressed into tight formations. In making its escape to the well it is possible to have refrigeration occur in the well, especially if the gas contains any appreciable amount of carbon dioxide. This is only an assumption and not substantiated by any conditions so far developed.

From experience in other fields where these heavy rock pressures have been encountered when the fields were first opened it would seem there can be no special harm come from allowing the gas to escape freely and as quickly as possible from the detrital zone or from those other high pressure pockets encountered in the siliceous lime (Arbuckle) formations.

The gas lift will be applied to the wells just as soon as they cease to produce in the natural way, and gasoline plants are already installed in the field, as well as compressor plant for the air lifts so all the companies operating in that area are preparing to conserve everything that is useful but treating the fields as a potential oil field and not as a gas field.

The real menace to the long life of the field just at this time seems to be the water showing that has appeared in two or three of the wells which seems to indicate some evidence of bottom hole water, or water that has coned in and is coming from edge water down dip and seems gradually to be increasing.

Future Practice

In future wells it will be the practice to drill them in with a great deal of care, and experience in the field is showing how each type of producing horizon can best be handled and the field has a large potential output, for the surface structure as mapped is one of the largest ever outlined in the State.

After the wells have passed their gas lift stage of production the pumping stage is going to present some very interesting problems in both methods and equipment.

It is probable that the 3-inch tubing will be used with 1-inch rods, or perhaps a tapered string of seven-eighths-inch and 1-inch and with the total depths ranging from 6,300 to 6,500 feet it is estimated the dead weight to be carried by the walking beam will be very close to 40,000 pounds.

To compensate for the stretch in rods and tubing it is planned to use the 72-inch stroke cranks and the number of strokes per minute will be governed by detailed studies of the wells using the dynamometers now developed for such purposes.

With the holes drilled quite straight, and it is understood that deflections are less than 3 degrees from vertical in most wells, the pumping problems will be reduced materially compared with what they were in some other deep areas in Oklahoma, and the care used in drilling these holes straight will be well repaid in saving in lifting costs on future production.

COLOMBIA EXPECTED TO REVISE OIL LAWS

(Continued from Page 56)

mate, from tropical to arctic; 90 per cent of the area of the country which is nearly as large as the United States east of the Mississippi River, is arable and not more than 5 or 10 per cent is utilized. Colombians are not an agricultural people, and the development of this industry probably will be solved sometime by immigration. At present the national policy does not encourage immigration. Probably 50 cases per annum of foreigners becoming citizens occur and these are mostly Syrians, generally called Turks.

Minerals — Emeralds, platinum, gold, silver, copper and coal are the principal minerals. Pearls are found in several places along the coast.

Cattle—There is a great future in this industry. The valleys are rich in all year grasses, while east of the eastern range of the Andes, stretch for hundreds of miles the llanos, a natural meadow land with almost countless streams. A few scattered herds graze on this immense area, which sometime will sustain millions of cattle and millions of people.

Lumber—In many sections vast forests of excellent timber trees grow. With the coming of transportation, this industry will be a source of great wealth.

Petroleum — While aside from the Tropical Oil Co.'s concession, the test wells drilled have been a disappointment, there is scarcely a reasonable doubt that Colombia will become a large oil producing country. The tests so far have been mostly along the Magdalena River Valley and the coast, and while in a few cases there has been some slight encouragement, no oil has yet been found in commercial quantities.

Millions Spent in Tests

The Standard Oil Co. of California (Richmond Petroleum Co.) has spent several millions of dollars in test wells along the coast. It is the only company aside from the Tropical Oil Co. and the Gulf Oil Corp., which has continued operations since the country passed the impossible oil law last year. Recently the Standard Oil Co. of California struck a heavy flow of gas at a moderate depth. On account of the formation and need of more equipment the company abandoned the well and is drilling another near the gasser. At another location the company struck such a gasser at about 1,200 feet that the derrick was demolished. It is preparing to drill another well in the same vicinity.

There will be no second Tropical Oil Co. success along the Magdalena and probably not in Colombia. South of the Tropical there are excellent prospects that a good pool will be found, but it is highly improbable that it will be as extensive as the ground held by the Tropical.

Colombia's main production probably will be found along the foothills of the eastern range of the Andes and on the edge of the llanos. The structure is encouraging and seepages are found. It seems probable that extensions of the pools near and in Lake Maracaibo and the Tarra Field will be found. Lake Maracaibo is about 100 miles from the Venezuelan border. The Tarra Field of the Colon Development Co. (Dutch-Shell) is nearer, probably 75 miles as far as developed.

Seepages, some very prominent, are found at intervals along the Andes, extending through Colombia, Ecuador, Peru, Argentine and Bolivia. In all probability, pools will be found at intervals along the entire range, possibly to and in Patagonia.

Experts Asked to Help

Millions will be distributed throughout the country in an effort to develop production. It is evident that Colombia is about to make laws to encourage this development. Petroleum experts from Rumania, England, the United States and Mexico have been invited to make suggestions as to the framing of those laws. The American representative is H. Foster Bain, head of the Bureau of Mines at Washington, assisted by Mr. Steele of the United States Geological Department. Their reports are all in and nothing remains but the action of congress which meets in July.

A fair law in the main seems certain to be passed. But there is a possibility that one or two clauses may be included which will nullify good points. In that case, there will be no development until the bad points are eliminated or revised. It is not believed the Minister of Industries will listen to the advice of the Mexican representative as against the others, after the complete failure of the Mexican oil laws and, as a result, Mexico's desperate financial condition.

The cancellation of the Barco Concession, the railway at Santa Marta, used by the United Fruit Co. for banana transportation, and the Mines of Marmato and Supia, have created a bad impression among foreign capitalists. It is not in good taste to go into details or express an opinion as some of the cancelled concessions are yet before the courts, but it may be observed here that Colombia's future depends largely, if not wholly on its external credit, and capital is always suspicious and timid, and will not go where it is not assured of protection.

Political Condition Sound

The political condition of the country is essentially sound. There are two parties Conservative and Liberal. The Conservatives are in power, and likely to remain so indefinitely. A few years ago the opposition was formidable but is badly disrupted at present, and only kept alive by a few newspapers almost entirely located in Bogota, whose influence radiates throughout the entire country. These newspapers now advocate Liberal abstention from voting, ostensibly as a protest against fraud, but in all probability, to conceal the party's weakness.

Disruption of the party has been caused by introduction of bolshevism into its ranks. Russian and Mexican propagandists appeared in the country, and largely as a result of their activities, the labor unions became almost unanimously "Reds." There are a great many sympathizers, mostly among the poorer classes. Parades under the red flag were general and incendiary speeches were in order, some of them in Bogota from the steps of the Capitol. The government took no measures to quell the agitators, trusting that the sentiments would evaporate in oratory.

The first clash came when the Reds utilizing anti-American sentiment, engineered a strike against the Tropical Oil Co. Although only about 1,000 employes struck, several thousand "strikers" soon collected. In a clash with the police, several lives were lost on each side. The mask was then laid aside when a day was set aside for a mass meeting "in honor of Lenin." The meeting came out squarely against the government, in fact advocating revolution. The government then declared martial law. Many of the leaders were arrested and jailed. Only at Girardot was there sign of resistance and before the third bugle call, which precedes the order to fire the mob dispersed. The prompt and efficient measures taken by the government quickly restored order and the "strike" was broken.

Liberals Approve Measures

Many prominent Liberals openly approved the measures taken and volunteered assistance, if required. They dealt leniently with those arrested and after a short time, they were released. But the bolshevists renewed activities. Some arms and munitions were caught and confiscated at ports of entry, and no doubt a limited amount was smuggled through. The assassination of a citizen was charged to the bolsheviki.

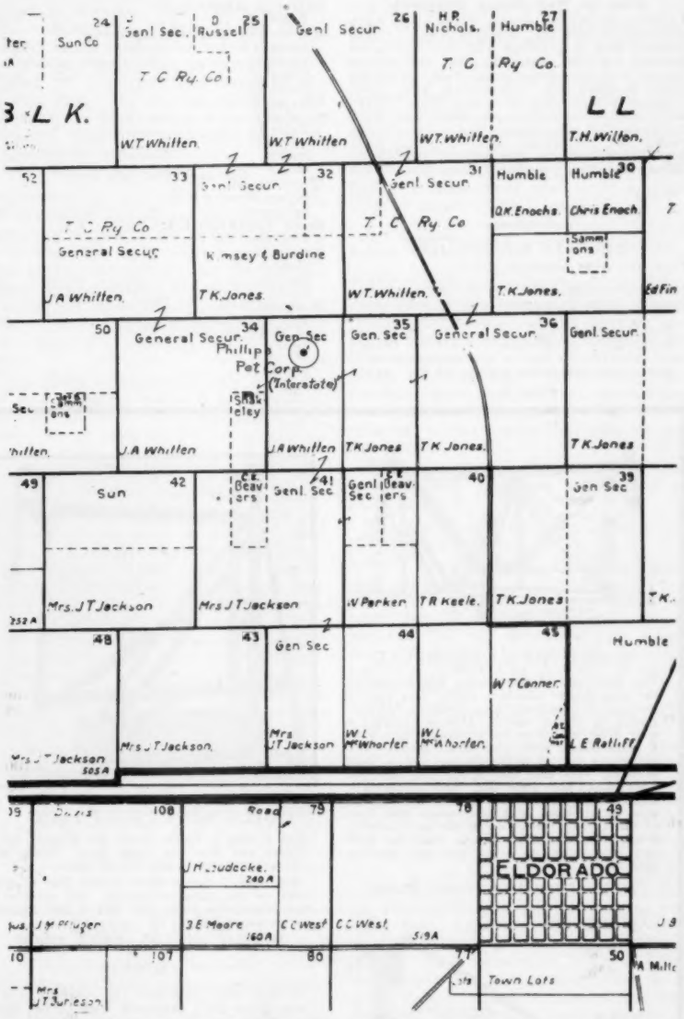
One of the most active leaders when released from jail, moved to Cienaga on the Santa Marta Railroad, and opened a "law office." "Red" agitation developed strongly there. Another "strike" was organized and declared and again against the other prominent American company in Colombia, the United Fruit. The civil authorities either through sympathy or helplessness, were powerless. A small detail of soldiers sent to Cienaga to preserve order, were disarmed by the "strikers." A regiment of soldiers was dispatched to Santa Marta, and proceeded to Cienaga, under the command of General Vargas. Evidently the government had decided it was time to stamp out this menace to law and order. The order was given to the mob to disperse. It refused to do so. The bugle was sounded. At the third call, the command was given to fire.

"Fire on Your Brothers"

Probably instructed by the Russian propagandists, the poor dupes bared their bosoms and shouted, "Fire on your brothers." But Colombia is not Russia, and the troops granted the request promptly with sanguinary results. The poor misguided bunch, or those who were physically able, did not ask for an encore, but fled in all directions. The measure was drastic, but bolshevism in Colombia received its death blow at Cienaga.

The best minds in Colombia both among Conservatives and Liberals, do not wish the Mexican policy of confiscation, excessive taxation and division of lands among the peons to succeed in Colombia, and although the Liberal press criticizes the harsh measures taken at Cienaga, it is for political effect and in case of real danger the papers probably would be found solidly behind the government. There is a compulsory military law in Colombia, but it is not enforced, as there is no necessity of sustaining a force of 30,000 at great expense. The army is kept at about 6,000 men, which is sufficient for any emergency. The police is a semimilitary force, well equipped and drilled and so brings the actual army to about 10,000.

There is expected to be a term of hard times but it is the general belief that the system of the Bank of the Republic and other solid financial institutions will avert a panic.



Plat showing location of Phillips Petroleum Co.'s (Interstate's) No. 1 J. A. Whitten in Schleicher County. It is standing at 4,137 feet after encountering a good showing of light green oil from 4,110-12 feet. Plat by courtesy of the Logan Map Co.

WEST TEXAS FIELDS

(Continued from Page 89)

back to 3,113 feet and had an initial production of 5 bbls. per day. Big Lake Oil Co.'s No. 165 University was drilled to a total depth of 2,891 feet, topped the pay at 2,877 feet and had an initial production of 300 bbls. daily, 30 per cent water.

Pecos County

Phillips Petroleum Corp.'s No. 1 Bowser, located 250 feet from north and east of Section 77, Block OW, G.C.&S.F.R.R. Survey, was dry and abandoned at 1,450 feet.

Winkler County

Southern Crude Oil Purchasing Co.'s No. 2 Hendricks T-88-CX, located in Section 21, Block 26, topped the pay at 2,645 feet, was drilled to a total depth of 2,771 feet and had an initial production of 320 bbls. daily plus 6.2 per cent water. Its No. 33 Hendricks T-88-M, located in Section 33, Block 26, was drilled to a total depth of 2,760 feet, topped the pay at 2,742 feet and had an initial production of 185 bbls. per hour. Its No. 6 Hendricks T-88-N, located 1,320 feet north and west of SE cor., Section 28, Block 26, was drilled to a total depth of 2,860 feet, plugged back to 2,108 feet, had a show of oil and gas at 2,605 feet, topped the pay at 2,740 feet and had an initial production of 90 bbls. oil, 95 per cent water per day. Its No. 3 Hendricks T-88-R was drilled to a total depth of 2,830 feet, topped the pay at 2,665 feet, increased at 2,090, 2,770 and 2,820 feet

and had an initial production of 402 bbls. oil, plus 16 per cent water. Tidal Oil Co.'s No. 1 Scarborough, located 330 feet south and east of NW SE SE, Section 1, Block C-22, had an initial production of 212 bbls. at 3,035-56 feet.

PIPE LINE RUNS

July 3 to July 10

Runs Through Trunk Lines

	Last period
Atlantic P. L. Co., Port Arthur, Tex.	38,563
Gulf P. L., to coast via Ranger, Tex.	35,502
Humble P. L., via Comyn, Tex.	49,754
Humble P. L. Co., Ingleside, Tex.	48,812
Illinois P. L. Co., via Del Rio, Tex.	50,000
Magnolia P. L. Co., to DeLeon, Tex.	26,514
Pasotex P. L. Co., El Paso, Tex.	12,232
Shell P. L. Co., Healdton, Okla.	41,762
Shell P. L. Co., Houston, Tex.	33,938
The Texas Co., Houston, Tex.	38,644
Total	375,721

Tank Car Shipments

Reagan Co. P. Co., Kemper, Tex.	0
Thomas & Brann, Grant City	125
Orient, McCamey, Tex.	150
The Texas Co., Crossett, Tex.	0
T. P. C. & O. Co., McCamey, Tex.	1,276
American Pet. Co., Pyote, Tex.	7,679
Skelly Oil Co., Pecos, Tex.	0
Southern C. O. P. Co., Wickett, Tex.	19,123
Total	28,353

Runs to West Texas Refineries

Amarillo Prod. Co., Pyote, Tex.	1,014
Bluebonnett Ref. Co., Wickett, Tex.	3,934
Burford Ref. Co., Pecos, Tex.	4,631
Col-Tex Ref. Co., Colorado, Tex.	7,000
Cosden Ref. Co., Big Spring, Tex.	10,734
Great Western Ref., Big Spring, Tex.	1,991
Humble O. & R. Co., McCamey, Tex.	3,791
Midland Ref. Co., Midland, Tex.	2,311
Tonkawa Ref. Co., Pyote, Tex.	1,580
Valley Ref. Co., Pyote, Tex.	2,427
Big Spring Ref. Co., Big Spring, Tex.	2,195
Richardson Ref. Co., Big Spring, Tex.	5,328
Total	46,936

Summary

	Previous week	Last period
Pipe line runs through trunk lines	343,625	375,721
Tank car shipments	29,504	28,353
Runs to West Texas refineries	55,572	46,936
Total daily distribution	428,701	451,010
Total daily production	373,687	396,091
Daily average from storage	55,014	54,919

PECOS COUNTY
YATES POOL
Week Ending July 16

Company, farm, sec., blk.—	Wells	Prod.
M. H. Black:		
Fee	1	15
California Co.:		
Yates—Lease 1	17	11,746
Smith—Lease 1, Sec. 37	3	607
Smith—Lease 1, Sec. 23	7	2,295
Smith—Lease 1, Sec. 21	3	1,021
Smith—Lease 2	2	108
Smith—Lease 3	12	2,535
Smith	1	6
Tippett—Lease 1	1	34
Cosby Drilling Co.:		
Smith	1	254
Gulf. Prod. Co.:		
All leases	37	18,033
Humble Oil & Ref. Co.:		
Smith-A	10	2,243
Smith-B	5	913
Kirby Pet. Co.:		
Tippett	2	80
Kirby Pet. & Edson:		
Tippet	1	248
Marland Oil Co.:		
Yates-A	5	523
Yates-A salvage		5,993
Mazda & Savoy:		
Smith	3	701
McCarty Oil Co.:		
Gray	1	15
Bennett	1	25
McMan Oil & Gas Co.:		
Smith-A	1	1,963
Smith-B	4	1,539
Smith-C	7	729
Tippett	2	268
Richardson	1	75
McMan & Marland:		
Yates	17	6,192
Mid-Kansas & Transcontinental:		
Yates-A	29	21,017
Yates-B	27	7,637
Yates-C	11	9,864
Yates-D	7	9,509
Yates-E	1	99
Yates-F	4	878
Yates-G	4	1,569
Yates-H	9	8,119
Smith	5	1,879
Smith	18	4,843
Grayburg Oil Co.:		
Pecos Riverbed	6	500
Salvage		700
Pecos Valley Oil Co.:		
Fee, Sec. 22, Blk. 26	2	85
Phillips Pet. Corp.:		
Monroe	1	68
Ramsey	2	582
Smith	2	660
Plymouth:		
Perry	1	off
Red Bank Oil Co.:		
Smith	5	540
Shell Pet. Co.:		
Smith-D	3	695
S.T.R. Company, farm—	Wells	Prod.
Tippett	11	3,077
Smith	9	1,136
Smith-B	1	695
Smith-E	1	20
Simms Oil Co.:		
Smith	7	7,871
Skelly Oil Co.:		
Tippett	1	55
Taylor Link:		
University	1	125
Total Yates Field	313	140,384

WINKLER COUNTY
Daily Average Production by Leases
Week Ending July 16

Company, farm, sec., blk.—	Wells	Prod.
Amerada Pet. Corp.:		
Cowden, 3, B-12	2	240
Atlantic O. P. Co.:		
Hendricks-A, 34, B-5	8	3,019
Hendricks-B, 44, 26	5	826
Hendricks-D, 29, B-5	8	2,209
Hendricks-E, 41, B-5	6	1,562
Hendricks-G, 46, 26	7	349
Hendricks-H, 30, B-5	1	off
Atlantic & Collet:		
Hendricks-F, 40, 26	13	1,932
Bankers Prod. Co.:		
Hendricks, 30, B-5	1	13
V. T. Bolin:		
Brown-Altman, 4, B-5	1	4
California Co.:		
Hendricks, 29, B-5	7	955
Cranfill & Reynolds:		
Hendricks-A, 28, B-5	2	471
Hendricks-B, 35, B-5	1	132
Hendricks-C, 35, 26	2	63
Hendricks-E, 33, 26	2	703
Cranfill & Texon:		
Hutchings, 47, 26	1	78
Culberson Bros.:		
Hendricks, 40, B-5	1	70
Eastland Oil Co.:		
Hendricks, 35, B-5	2	372
Hendricks-B, 41, 26	1	132
Gulf Prod. Co.:		
Hendricks-A, 34, B-5	13	4,107
Hendricks-B, 45, 26	11	6,355
Hendricks-C, 40, B-5	6	1,079
Hendricks, 44, 26	2	489
Cowden, 3, B-12	3	1,753
Humble Oil & Ref. Co.:		
Hendricks-A, 34, B-5	17	5,507
Hendricks-B, 29, B-5	6	1,135
Hendricks-C, 32, 26	8	678
Hendricks-B, 39, 26	7	519
Hendricks-C, 10, B-12	11	5,986
Independent Oil & Gas:		
Hendricks-A, 34, B-5	7	1,374
Howe-B, 44, 26	3	185
McCabe, 36, B-5	2	199
Hendricks, 42, B-5	1	11
Vardeman-B, 41, B-5	7	723
Magnolia Pet. Co.:		
Hendricks, 29 B-5	8	411
Marland Oil Co.:		
Hendricks, 33, 26	4	900
S.T.R. Company, farm—	Wells	Prod.
Hendricks, 29, 26	2	144
Hendricks, 34, 26	2	201
May Prod. Co.:		
Hendricks, 34, 26	1	10
American Maracaibo:		
Hendricks-A, 28, B-5	1	136
Hendricks-B, 28, B-5	1	516
Mining & Engineering:		
Hendricks, 10, B-12	1	10
Murchison & Cranfill:		
Hendricks-A, 35, B-5	3	782
Hendricks-B, 35, B-5	3	572
Hendricks-C, 35, B-5	1	65
Hendricks-H, 35, B-5	1	1,438
Hendricks-I, 34, 26	2	off
Prairie Oil & Gas Co.:		
Hendricks, 40, 26	6	1,756
Cowden, 3, B-12	6	3,738
Pure Oil Co. (Lion Oil):		
Hendricks-A, 41, B-5	11	1,822
Hendricks-B, 34, B-5	13	3,832
Hendricks-C, 45, 26	14	7,419
Hendricks-D, 44, 26	1	124
Republic Prod. Co.:		
Hendricks-A, 45, 26	12	2,817
Hendricks-B, 41, B-5	5	182
Shell Pet. Co.:		
Hendricks-A, 45, 26	6	1,004
Hendricks-B, 29, B-5	5	1,213
Hendricks-C, 29, B-5	8	642
Hendricks-D, 41, B-5	2	256
Hendricks E, 40, B-5	3	586
Hendricks-F, 46, 26	8	1,219
Hendricks-C, 39, 26	1	16
Shell-Texas Company:		
Cowden-A, 3, B-12	6	1,476
Hendricks, 45, 26	6	1,626
Hendricks-A, 29, B-5	10	3,042
Hendricks-B, 40, 26	6	815
Hendricks-C, 40, 26	6	1,908
Hendricks-D, 40, 26	6	510
Hendricks-E, 39, 26	3	323
Skelly Oil Co.:		
Hendricks, 40, 26	12	5,981
Hendricks-B, 39, 26	2	19
Hendricks-C, 39, 26	1	232
Southern Crude Oil Purch. Co.:		
T-67 Hendricks-A, 42, B-5	3	139
T-67 Hendricks-3-A, 4, B-12	5	500
T-67 Hendricks-B, 44, 26	5	560
T-67 Hendricks-3-B, 33, 26	4	510
T-67 Hendricks-C, 33, B-5	5	620
T-67 Hendricks-2-D, 28, 26	4	832
T-67 Hendricks-E, 42, B-5	4	191
T-67 Hendricks-F, 33, B-5	5	675
T-68 Hendricks-3-A, 35, B-5	3	139
T-68 Hendricks-B, 46, 26	2	218
T-88 Hendricks-A, 44, 26	6	831
T-88 Hendricks-B, 4, B-12	4	924
T-88 Hendricks-C, 28, B-5	8	1,269
T-88 Hendricks-D, 4, B-12	6	3,171
T-88 Hendricks-H, 28, 26	7	1,312
T-88 Hendricks-I, 30, B-5	7	780
T-88 Hendricks-J, 30, B-5	5	767
T-88 Hendricks-K, 41, 26	7	1,343

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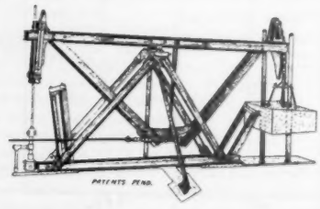
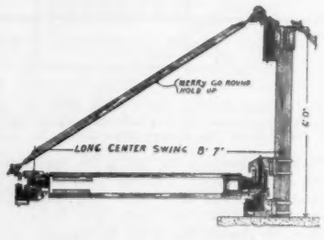


GOBLE NO. 6 UNDERPULL

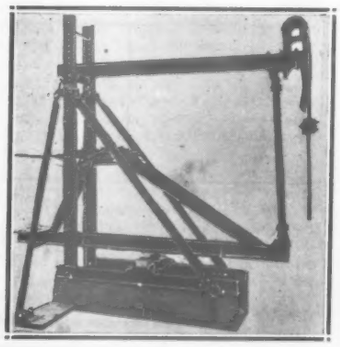
The first one of this model was assembled the first day of October, 1928. This jack is meeting with success. One company has purchased 91 of this model. One is pumping a well 3750 feet deep on a shackle line over 1 mile long, with two hold downs, two swings, a lot of roller boxes and a road crossing. Our easy pull makes this possible. This jack has side and end adjustment, straight lift on polish rod and counter-balance, multiplier, head ache posts and, best of all a long stroke on a Varied Leverage SeeSaw Rocker. This jack is made for hard and deep wells. It is the best and heaviest jack made.

WEIGHT 3610 LBS.—PRICE $368.00



LONG CENTER SWING

Long Center Swings do not foul themselves on long shackle lines and pull easier. Goodbye D stirrup, as we have a bearing replacing the D stirrup that runs in a bath of oil, and will run better than the D by oiling as often per month as you oil the D per day. All bearings have vacuum gravity supply oil bath and all bearings have rain proof caps built on an entirely new principle.



GOBLE NO. 6 LIGHT JACK

Fitted with a Cable Head for straight lift. Polish rod does *not* touch head. Needs no oiling nor care during life of cable.

This jack is same size as the No. 6 and sets on the same foundation. All parts are interchangeable with the No. 6 but lighter in construction.

WEIGHT 2610 LBS.—PRICE $250.00

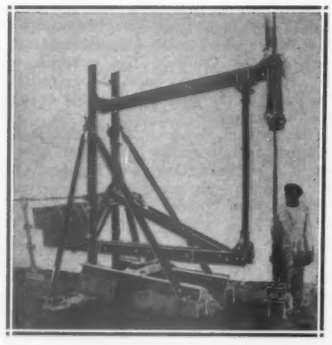
$500

to the first engineer or college that can show us a practical way to lift the load on a pumping jack as easily as by our *Varied* and *Controlled* Leverage on a SeeSaw Rocker.

We have the easiest lifting jack ever made.

One district superintendent bought an even hundred of our jacks in his district last twelve months, 35 No. 6 Overpulls and 65 No. 6 Underpulls.

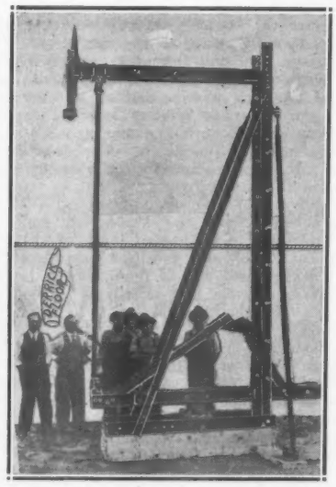
One company has bought 230 of our jacks in last year.



GOBLE NO. 6 JACK

A company had a water well in the Drumright field on which they had tried two different kinds of jacks and could not lick the water, and could not get it to pump any oil. We put on a Goble No. 6 and in two weeks it pumped oil and has continued to pump oil.

Another company called us and said they had a well in the Drumright field on which they had tried two jacks and were losing production every day as they could not pump the well off. We placed one of our No. 6 jacks on this well and in eight days had to shorten the stroke. In 1928 we sold 201 of our No. 6 jacks in the Cushing district. This jack lists at $296.00. Weight 3050 lbs.



Above is a cut of No. 4 Jack designed for an oil well with derrick floor eight feet high. This jack was shipped to Sumatra for Lucey Products Corporation. For high derrick floors we just fit floor around legs and braces and leave a slot for pitman to work in. This saves high foundation and high shackle line. Our No. 4 regular lists $186.00. Weight 1730 lbs.

YES, WE ARE READY TO GO. WE WANT AGENTS IN EVERY DEEP WELL TERRITORY TO SELL AND SERVICE OUR PUMPING JACKS, SWINGS, ETC. MUST CARRY SOME JACKS AND PARTS.

We will give any large user of jacks a *Free Trial* anywhere in the Midcontinent fields.

Write for Catalogue

B. G. GOBLE, Tulsa, Oklahoma

Phone 7850 **P. O. Box 88**

Company, farm, sec., blk.—	Wells	Prod.
T-8S Hendricks-L, 4, B-12	4	899
T-8S Hendricks-M, 33, 26	31	14,115
T-8S Hendricks-N, 28, 26	7	1,343
T-8S Hendricks-O, 28, 26	4	800
T-8S Hendricks-P, 28, 26	2	464
T-8S Hendricks-Q, 27, 26	2	865
T-8S Hendricks-R, 28, 26	3	642
T-8S Hendricks-S, 34, 26	4	1,257
T-8S Hendricks-T, 34, 26	7	1,013
T-8S Hendricks-U, 41, 26	9	1,524
T-8S Hendricks-V, 29, 26	1	78
T-8S Hendricks-W, 5, B-12	1	320
T-8S Hendricks-CX, 21, 26	3	1,166
T-8S Hendricks-A, 35, B-5	3	270
T-8S Hendricks-B, 35, B-5	2	414
T-8S Hendricks-C, 35, B-5	3	619
T-8S Hendricks-D, 35, B-5	1	261
T-8S Hendricks-E, 40, B-5	3	189
T-8S Hendricks-F, 40, B-5	2	258
T-8S Hendricks-H, 46, 26	2	224
T-8S Hendricks-I, 10, B-12	2	165
T-8S Hendricks-J, 9, B-12	8	2,752
T-9O Hutchings, 47, 26	1	235
Texon Oil & Land Co.:		
Hendricks-A, 41, B-5	6	241
Hendricks-B, 45, 26	6	1,839
Winkler O. P. Co.:		
Hendricks, 33, 26	1	51
Total Hendricks Pool	573	137,710
LECK AREA		
Atlantic Kesslar & Logan:		
Leck, 3, 74	2	562
Amerada Pet. Corp.:		
Leck, 3, 74	2	480
Empire G. & F. Co.:		
Daugherty, 3, 74	3	463
Magnolia Pet. Corp.:		
Scarborough, 1, C-22	1	132
Gulf Prod. Co.:		
Scarborough, 1, C-22	1	75
Daugherty, 3, 74	1	405
Shell-Llano Oil Co.:		
Daugher.y, 1, C-22	4	252
Shell-Danciger:		
Daugherty, 3, 74	2	152
Shell Pet. Co.:		
Leck, 3, 74	1	off
Skelly Oil Co.:		
Daugherty, 22, 16	2	549
Tidal:		
Scarborough, 1, C-22	1	225
Prairie Oil & Gas Co.:		
Leck, 16, 74	1	362
Daugherty, 3, 74	1	228
Scarborough, 1, C-22	1	64
Warner-Quinlan:		
Leck, 3, 74	1	253
Total Leck Pool	24	4,202
O'BRIEN POOL		
Company, farm, sec., blk.—	Wells	Prod.
Marland Oil Co.:		
Morton, 10, B-12	2	186
Wentz Oil Corp.:		
Morton, 10, B-12	1	279
Simms Oil Co.:		
Sealy, 50, F	1	26
Richardson and others:		
Stockton, 50, F	1	163
Total O'Brien Pool	5	654
Total Winkler County Field	602	142,566

COATING OF METAL WITH CADMIUM AND NICKEL

(Continued from Page 58)

be regulated to suit the particular use to which the article is to be put later.

Plating Bolts and Nuts

There is another interesting department in this plant where nuts and bolts are plated with cadmium in special cylinders that will each hold about 125 pounds per charge.

These cylinders, which are really hexagonal in shape, are made of special material and coated with micarta, the only material that is known that will withstand the action of the sodium cyanide bath and the current satisfactorily.

The charge of nuts and bolts or such small objects as it is desired to coat is placed in this cylinder and lowered into an electrolyte and the current is passed through the bath from the cadmium ball pole pieces and makes contact with the articles to be plated inside the cylinder by means of strips of metal set on the inside of this cylinder and connected with an insulated arm that is carried on a terminal outside of the tank, and this arm also serves as a means of suspending the cylinder in the proper position in the electrolyte.

Plating as thin as .0002 of an inch can be done in this way and the threads in bolts and nuts will not be filled up so that they will gall or crease when the nut is screwed into place.

In plating with chromium hydrogen gas is evolved in large quantities and this gas would be injurous to the workmen if they were compelled to inhale it during their work. By means of a suction fan and system of conductors every trace of this gas is removed from above the vats as generated and workmen can proceed with their duties without danger of any kind from this source.

For the steam needed in various phases of this process a 50-horsepower National boiler is used and fired by gas and is set alongside of the main building of the plant.

Protective Metals, Inc., has been organized to serve all branches of industry in the Southwest and particularly the petroleum industry and has brought from the East operatives skilled in the various operations to be performed, and has expert metallurgists available to its customers, who are ready at all times to give service to those interested in protecting parts of equipment that is now being rapidly corroded.

The plant is now in operation and invitation is extended to all interested to pay a visit. William McCandlish, vice president, is in charge of the business and plant operations.

SPOT GASOLINE DEMAND CONTINUES TO BE SLOW

(Continued from Page 52)

able to secure premium prices for their products. These premiums have been as high as 2 cents a gallon although usually the premium is one-fourth to one-half cent a gallon.

In this connection a number of Mid-Continent refiners are now offering Ethyl Gasoline to their customers under a license agreement with the Ethyl Gasoline Corp. The territory for the sale of this product is no longer restricted and more and more jobbers and refiners are adopting it as a premium product for their stations.

Refiners sell this Ethyl Gasoline in tank car lots 3 cents above the prevailing market for U. S. Motor gasoline. This 3 cents is representative of the additional expense involved in the blending operation. Where the refiner has a cracked gasoline which is naturally high in antiknock value, smaller quantities of tetraethyl lead, the chemical used in the manufacture of Ethyl Gasoline, is required. These refiners not only increase their sales volume but also secure a wider margin of profit.

A few refiners are offering substitutes for Ethyl Gasoline secured by special processes in their refinery operation. These refiners generally secure a premium of from 1 to 2 cents a gallon for this product from jobbers. While the demand for these gasolines has increased, the sale of Ethyl Gasoline far exceeds the combined sales of these competitive products. Several refiners who were offering their own antiknock gasolines recently have adopted Ethyl Gasoline as their premium grade.

High Gravity Gasolines

While this demand for antiknock gasoline has aided many refiners it has reduced the demand of refiners who have made a specialty of high gravity gasolines. The Ethyl Gasoline Corp. in its summer grade of Ethyl Gasoline requires the licensees to use a base gasoline with a distillation range approximately the same as U. S. Motor gasoline so this is not an aid to the high gravity outlook.

Formerly the premium gasoline sold to consumers was a high gravity product with a low initial and endpoint. Now the ordinary grades satisfy the car owner so far as distillation range is concerned and the summer domestic demand for 400, 390 and 375 endpoint material is confined to scattered shipments in the northern states and Canada. In the muddled price situation of the past three weeks, a few refiners have been forced to offer their high gravity material on a parity with the U. S. Motor grade.

Gasoline and Naphtha

On Monday all the refiners except one reporting sales on which the weighted average quotation of this issue is based gave 8 cents as their price on U. S. Motor grade. One refiner reported sales of 8¼ cents. The movement was small at the 8-cent price. The same grade was freely available at 7½ and 7¾ cents from other refiners with a few sales of 7¼ cents reported.

While the larger refiners were maintaining a differential of one-fourth to one-half cent for the 400 and 375 endpoint high gravity material these prices were nominal. As previously indicated there is practically no demand for the high gravity gasolines and the sellers who were forced to move material usually had to take a low gravity price.

In North Texas an export inquiry for over a million gallons of 375 endpoint material was reported A price of 7¾ cents is said to have been offered. This is one-half cent under the contract price for the same grade. Another inquiry for 400 endpoint gasoline was reported at a price below that acceptable to the refiners.

Prices on the regular grade of 50-52 450 endpoint gasoline are holding up remarkably well. One refiner quoting 8 cents on U. S. Motor is selling this grade of naphtha at 8¼ cents. The lower gravity grades with an endpoint of 460 or higher are available with price concessions.

Kerosene and Distillate

The 38-40 straw or prime white distillate can be termed strong in Oklahoma. A product with a low initial so that it is suitable as motor fuel for tractors is in strong demand in the agricultural sections. Large quantities are being consumed in Kansas, West Oklahoma and other wheat areas. There is also exceptionally heavy summer buying of distillate for winter consumption as furnace oil.

Most of the Oklahoma refiners are quoting from 5¼ to 5½ cents to the trade for the 41-43 water white grade of kerosene. The same grade sold as low as 5⅛ cents for resale.

Fuel Oil and Gas Oil

There is an undertone of strength in the Oklahoma fuel oil and gas oil market. The exceptionally heavy summer demand, it is expected, will be followed by an even greater movement when the fall and winter buying starts. If crude oil prices are reduced later this increased demand may not result in price improvement but the sellers are expecting higher quotations.

The 32-36 straightrun straw color gas oil is a premium product in Oklahoma and is not now available under 2⅝ cents. Many sales at 2¾ cents are reported. Prices on other grades of fuel oil and gas oil are unchanged.

Natural Gasoline

The movement of natural gasoline improved the latter part of last week and prices were advanced by several manufacturers. Grades A and AA, which sold at 6 cents early in the week, moved up to a low of 6¼ cents. The remaining grades advanced to a low of 5¾ cents.

A few substantial orders were placed for delivery to the Gulf Coast. Manufacturers also said that Mid-Continent refiners were more active as buyers. On Monday and Tuesday of this week the movement was slow.

Lubricating Oils—Wax

The contract movement of motor oils is strong. In the spot market steam refined cylinder stocks and bright stocks are sold up for July. It is expected this market will be easier in August. Wax prices are steady with refiners refusing to give additional concessions in prices.

Late Fields

(Continued from Page 64)

pleted flowing 1,000 bbls. of pipe line oil daily from sand at 2,797 feet.

Gulf Production Co.'s No. 8 Cain, east side of Pierce Junction, Harris County, came in flowing an estimated 2,000 bbls. daily from sand at slightly less than 5,000 feet. Yount Lee Oil Co.'s No. 5 Gladys City is flowing an estimated 700 bbls. daily at 2,934 feet. The latter two are workovers.

Pure Oil Co.'s No. 3 Mayes, wildcat on the Lost Lake Dome, north Chambers County, tested salt water in sand at 2,121-52 feet and is to be deepened.

KANSAS

The Derby Oil Co. and others' No. 1 Hadlik, in the townsite of Greenwich, Section 15-26-2, Sedgwick County, was flowing at the rate of 50 bbls. an hour from chat at 2,918-20 feet, and not showing any water. It may be drilled deeper.

Barnsdall Oil Co.'s No. 1 Rapp, southwest of Greenwich, in Section 22-26-2, Sedgwick County, is shut down on top of chat to cement casing before drilling in. This test will be an extension to the Townsite Pool which has proved prolific to operators owning production in that area.

Tom Slick Oil Co. and others' No. 1 Mackey, in Section 11-26-2, Sedgwick County, an important wildcat test northwest of the Greenwich Townsite Pool, found water in the Simpson lime at 3,170-80 feet. The hole started to fill with water at 3,177 feet. It will probably be deepened to the Wilcox horizon.

SOUTHWEST TEXAS

SAN ANTONIO, Tex., July 23.—A. G. Kieffer's No. 1 B. B. Dix, in Ira Nash Survey, 4 miles southeast of The Texas Company's No. 1 Dallas Wilson in Guadalupe County, after standing at 1,265 feet for several weeks developed a lot of gas that blew out through the mud and is creating a little excitement. A few days prior to the blowout the wind blew the derrick down. Lumber is moving out to replace the derrick today. Buying leases in the stretch of territory through eastern Bastrop, through Caldwell, Gonzales and Guadalupe Counties into Wilson County has developed into nearly a scramble with no fixed prices for acreage. Al Buchanan is drilling in No. 1 L. K. Brown at Dale today with every appearance of a new Serpentine pool.

MICHIGAN FIELDS

(Continued from Page 64)

dale Township, Midland County, which completes a foursome at the junction corner of four tracts on each of which the Pure company has a well directly or diagonally offsetting the others. The Dundee was topped at 3,503 feet and the pay sand came at 3,538-82 feet. The well is reported to have made 500 bbls. during the first 24 hours.

The Pure company's No. 2 Harrison was increased from 300 bbls. initial to about 800 bbls.

The Rockford Syndicate is about ready to plug and abandon its No. 1 Harris, SE SW Section 11-14-3, Chippewa Township, after months of fishing and recent attempts to drill by a lot of steel in the hole. The South Bend Syndicate's No. 1 McNeal, NE SE Section 9-14-3, Chippewa Township, had several hundred feet of oil in the hole and will be tested on the pump.

The J. O. Spracklin No. 1 Foster, NW NW Section 15-14-3, Chippewa Township, has been abandoned and a new location made for No. 1 McClintic-Hood, NW NE Section 29-15n-2w, Geneva Township, Midland County. The Wittmer Oil & Gas Co.'s No. 1 West, SE NE Section 25-15n-5w, Isabella Township, Isabella County, will be located just a short distance north of the city of Mount Pleasant. It is reported that the Pure company is considering abandonment of its deep test on the No. 1 Iosco Land Co., SW SW, Section 16-14n-2w, Greendale Township, Midland County. It is believed to be about 4,850 feet. There are more than 30 other wells active in the field with no locations idle for which permits have been granted.

Lakeview Well

The Lakeview well in Montcalm County in which it was reported last week a good showing of oil had been struck, will be drilled to the Monroe formation and if found to be dry there will be plugged back to the Dundee show and shot at 3,525 feet. It is drilling at more than 3,700 feet. Operators believe there is enough oil in the Dundee at this point to make commercial production. The well is located on the Ernest Snyder property, NE SW Section 20-12n-8w, Montcalm County, about 3½ miles southwest of Lakeview, about 60 miles northeast of the Muskegon Field on a direct line across the state between the Muskegon and Mount Pleasant Fields.

YIELD VERY RICH IN CALIFORNIA DEEP SANDS

(Continued from Page 136)

1927. The aggregate initial daily production, 706,362 bbls., of new wells finished during the first half of the current year, is considerably in excess of any past figures, the nearest being in 1923, when 387 new wells showed an initial aggregate daily production of 644,368 bbls. during the first six months of that year. There was an average of 634 wells actually drilling in California during the first six months of 1929, as compared with the record of 783 drilling projects under way during the first six months of 1923, when Long Beach, Santa Fe Springs and Huntington Beach were undergoing town lot development simultaneously. The average number of producing wells during the past six months is considerably lower than similar figures for corresponding periods during the past five years. This is due to the fact that a large number of small pumpers have been shut in because of prevailing low prices for heavy unrefinable crude oil and the inability of marketers to dispose of heavy crude. A new record was established from the standpoint of new work as the 765 new rigs erected during the first half of the current year exceeds the previous high mark established during the first half of 1924, when 726 derricks were constructed.

It is needless to say that Santa Fe Springs was responsible for a large part of new work undertaken during the current year to date. Compilation of data covering development work during the period in question shows that 171 new rigs were erected and 150 producing wells finished at Santa Fe Springs. The new wells finished in this field showed an aggregate initial daily production of 486,892 bbls., an average initial daily production of 3,245 bbls. per well. One of the most interesting features in connection with the data collected on development work is the remarkable showing made by Long Beach. This field, which produced almost as much crude oil as Santa Fe Springs during the first half of 1929, yielded 112 new wells which showed an aggregate initial daily production of 95,136 bbls. and is credited with 76 new rigs erected. Daily production at Long Beach has been unusually stable for the past several months and will probably continue to hold up for some time to come as there are still 131 uncompleted drilling projects under way at the present time.

Another interesting sidelight on development work during the first half of the current year is the extensive amount of drilling undertaken in the Mount Poso Field of Kern County. The 33 new wells finished and the 7,091 bbls. of new production added indicates a consistent drilling campaign, notwithstanding the fact that not one barrel of oil was transported out of this district by pipe line until May 1, when the General Petroleum was obliged to open up its curtailed production because of stringent lease requirements. The Union Oil Co. has subsequently started the construction of a second line out of the Mount Poso Field and this company and the Shell will probably open up their curtailed production in the near future. The prolific Ventura Avenue Field also showed a consistent development campaign during the first half of the year and that success attended the efforts of operators in this district is evidenced by the fact that the 27 new wells finished showed an aggregate initial daily production of 39,608 bbls., an average daily production of 1,467 bbls. per well. A new field appeared on development charts for the first time this year, due to the successful completion of a 1,000-bbl. well at Santa Barbara by the Olympic Oil & Refining Co. A total of 45 new rigs were erected in this area subsequent to completion of the discovery, indicating the initiation of an intensive drilling campaign. This field has all the earmarks of being a failure, however, and many operators are no doubt already regretting their hasty entrance into this new district, which is located approximately 3 miles west and a little south of the city of Santa Barbara. The balance of the year will witness increased wildcat exploration and substantial state production for the next few months, but crude oil output is expected to be subsequently reduced due to enforcement of the gas conservation law.

PRODUCTION OF CRUDE BY MONTHS—CALIFORNIA OIL DISTRICTS
(Barrels of 42 U. S. Gallons)

	1929		1928	
Month—	Total bbls.	Daily average	Total bbls.	Daily average
January	23,385,939	754,385	19,028,228	613,814
February	22,360,707	796,454	18,038,459	622,016
March	24,324,729	784,669	19,118,324	616,720
April	23,295,060	776,502	18,280,729	609,357
May	24,053,551	775,915	19,331,866	623,609
June	24,624,627	820,821	19,164,244	638,808
Total first half	141,984,413	784,444	112,961,850	620,670
July			19,754,458	637,241
August			19,444,899	627,255
September			18,908,169	630,272
October			19,430,992	626,806
November			19,907,526	663,584
December			21,574,703	695,598
Total last half			119,020,747	646,852
Total last year			231,982,597	633,832

CALIFORNIA POTENTIAL DAILY PRODUCTION

	Marketable daily production	No. of wells producing	Curtailed: Daily production	Curtailed: No. of wells	Total potential: Daily production	Total potential: No. of wells
YEAR 1928						
January	613,814	11,281	78,751	2,528	692,565	13,809
February	622,016	11,299	78,751	2,528	700,767	13,827
March	616,720	11,315	87,193	2,532	703,913	13,847
April	609,357	10,716	126,849	3,447	735,206	14,163
May	623,609	10,531	127,448	3,474	751,057	14,005
June	638,808	10,624	126,475	3,421	765,283	14,045
July	637,241	10,643	127,530	3,463	764,771	14,106
August	627,255	10,663	122,881	3,462	750,136	14,125
September	630,272	10,670	126,016	3,479	756,288	14,149
October	626,806	10,704	112,341	3,447	739,147	14,151
November	663,584	10,721	110,527	3,437	774,111	14,158
December	695,958	10,711	112,766	3,532	808,724	14,243
Daily average	633,832	10,823	111,377	3,239	745,209	14,062
YEAR 1929						
January	754,385	10,750	112,409	3,536	866,794	14,286
February	796,454	10,683	118,864	3,721	915,318	14,404
March	784,669	10,593	120,380	3,831	905,049	14,424
April	776,502	10,604	136,003	3,844	912,505	14,448
May	775,915	10,347	173,906	3,860	949,821	14,207
June	820,821	10,305	135,704	3,934	956,525	14,239
Daily average	784,444	10,547	132,878	3,788	917,322	14,335

CALIFORNIA
FIELD OPERATIONS BY MONTHS FOR FIRST HALF YEAR 1929

1929—	Wells completed: Number	Wells completed: Bbls. daily	Wells: Drilling	Wells: Producing	Abandoned: Drillers	Abandoned: Producers	New rigs
January	94	187,800	654	10,750	19	18	164
February	92	127,208	666	10,683	9	5	133
March	81	81,046	649	10,593	27	34	112
April	77	103,048	612	10,604	31	45	142
May	67	84,259	605	10,347	13	13	80
June	62	123,001	617	10,305	35	10	134
Total first half year 1929	473	706,362			134	125	765
Total first half year 1928	351	273,782			104	184	549
Total first half year 1927	531	314,141			171	147	635
Total first half year 1926	496	154,531			140	112	509
Total first half year 1925	459	221,005			152	75	605
Total first half year 1924	688	290,078			305		726
Total first half year 1923	387	644,368			122		719
Total first half year 1922	321	130,443			86		593
Total first half year 1921	365	112,210			78		661
Total first half year 1920	254	47,168			97		430
Monthly average first half year 1929	79	117,727	634	10,547	22	21	128
Monthly average first half year 1928	59	45,630	454	10,961	17	31	92
Monthly average first half year 1927	89	52,357	454	11,299	29	25	106
Monthly average first half year 1926	83	25,755	417	11,290	23	19	85
Monthly average first half year 1925	77	36,834	438	11,534	25	13	101
Monthly average first half year 1924	115	48,346	559	10,570	51		93
Monthly average first half year 1923	65	107,395	783	8,986	20		120
Monthly average first half year 1922	54	21,741	584	9,816	14		99
Monthly average first half year 1921	61	18,702	557	9,749	13		110
Monthly average first half year 1920	42	7,861	369	5,159	16		72

GREATER SEMINOLE GAINS IN GASOLINE PRODUCTION

(Continued from Page 227)

exclusive manufacturers of Grade AA at this time.

Plant Changes

The Amerada Petroleum Corp. is installing additional equipment at its Earlsboro plant to boost its output to 15,000 gallons daily. The production of 30,000 gallons daily at the Earlsboro plant of the Barnsdall Oil Co. includes approximately 10,000 gallons of finished gasoline which is obtained from producers in the field. This gasoline is brought to the plant as drip gasoline and then stabilized.

The production of the Earlsboro plant of the Skelly Oil Co. has decreased recently. The company is extending its gathering system to new wells and expects to obtain from 3,000,000 to 4,000,000 additional gas supplies within the next three weeks.

The production of the Seminole City plant of the Sinclair Oil & Gas Co. again exceeds 100,000 gallons daily. Additional gas supplies are being brought to the plant from the company's large crude oil wells in Section 18-9-6. The plant produces approximately one-tenth of the entire production in the field.

In the Mission Pool the Gypsy Oil Co. now has a plant producng 72,000 gallons of gasoline daily. The production of this plant has steadily increased since March. It now ranks as the third largest plant in the field.

The production of the Little River plant of the Victor Gasoline Co. has been increased from 15,000 to 24,000 gallons daily. The company recently obtained additional gas from new wells. Among the several pools the Seminole City Pool continues to have the largest natural gasoline output. The Little River pool is second.

OIL TARIFF HEARING BY SENATE COMMITTEE

By Charles E. Kern
Washington Bureau, The Oil and Gas Journal

WASHINGTON, D. C., July 20.—A tariff on crude oil and products of oil of foreign origin was advocated at the hearing given by the Senate Committee on Finance, by oil producers who asked for a duty of $1 a barrel on crude oil and a 50 per cent ad valorem duty on gasoline, lubricating oils and other petroleum products.

Senator Pine (republican, Oklahoma) declared thousands of small wells are being abandoned and the independent producers virtually paralyzed because of the imports of cheap foreign oil. In answer to Senator Reed, Senator Pine declared that if the duty was enacted, produc ion would not be increased to a greater extent than to replace the foreign oil which would be banned, 79,000,000 bbls. annually. Senator Pine said prices would not be stimulated noticeably.

Senator King asked if it were true that so far as the public was concerned there were no independent producers because the prices fixed by Standard Oil and other large companies were charged by independents for their products. Senator Pine denied there were no independents, but prices were on virtually the same level.

Former Representative Howard of Oklahoma declared the general trend of the prices of crude petroleum had been downward, with a decrease of 29.4 per cent since 1921. This has forced many independent producers out of business, has decreased the income of the farmer and landowners, and reduced the earnings of oil field workers, he said. On the other hand, that end of the industry, Mr. Howard said, engaged in the refining, transportation and distribution of petroleum products has prospered.

Major W. S. Heywood, of Jennings, La., representing Governor Long and independent oil producers of that state, told the committee that, unless they are given a protective tariff, they will demand "a full and exhaustive investigation of the books of corporations and supercorporations now controlling the petroleum industry of America."

Senator Pine told the committee a duty on crude oil would not necessarily raise the price of gasoline because the profits on importations are sufficiently great to absorb the tariff.

A duty on oil would work an injustice on American ship owners by adding to the already excessive operating costs, H. B. Walker, president of the American Steamship Owners Association told the Senate Finance Committee.

It would mean, he said, the gradual depletion of our national petroleum resources, which not only is in direct opposition to the efforts towards conservation being made by the Government and the oil industry but which have the ultimate effect of leaving the industry and the ship owner solely dependent upon foreign sources of supply.

"There can be no doubt that the imposition of the proposed duty would give an impetus to the construction of refineries abroad. Naturally, with their lower marine construction and operating costs, foreign countries are going to use their own vessels, and we will have the pleasant picture of oil being transported to the refineries and markets of the world in tankers built abroad and operated under foreign flags, a trade which it will be exceedingly difficult, if not impossible, to regain."

A refining in bond provision has been suggested to permit the importation of foreign crude under bond for refining purposes and export.

NEW OIL CONFERENCE

Governors of 11 western public lands states in conference at Boise, Idaho, have decided to call another conference to meet in Salt Lake City August 26 and 27. The August meeting will discuss reclamation, aeronautics, oil conservation policy and other problems common to the public lands states.

Thanks -- Mr. Sanford!

DORA ROBERTS NO. 4
Howard County—Near Big Spring, Texas

LUFKIN: 5½" Unit, No. 22 Hoist, Post, Trout Pitman

OWEN-SLOAN OIL COMPANY
910 JOHNSON STREET INCORPORATED PHONE NO. 979
BIG SPRING, TEXAS
March 16, 1929.

Lufkin Foundry & Machine Company,
Lufkin, Texas.

Attention: Mr. A. E. Cudlipp,
Sales Manager.

Gentlemen:

We have received the two sets of photographs showing Lufkin units at our Roberts #4 and #8 wells and surely thank you for your courtesy in this matter.

We take pleasure in saying to you that our experience with Lufkin Units has been and is extremely satisfactory and we have found their performance both very dependable and highly efficient.

Yours very truly,

DWS

D. W. Sanford

7 Reasons for LUFKIN units

1 - DEPENDABILITY
2 - EFFICIENCY
3 - FIRE PROOF
4 - QUIETNESS
5 - SIMPLICITY
6 - COMPACTNESS
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MODERN PRODUCTION EQUIPMENT
Manufactured at Lufkin, Texas, by
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How about the steam plant for refining economies?

A plant where new practice is saving money

THE photograph above shows the interior of the power plant at the Emery Mfg. Co., Bradford, Pa. Their new 807 H. P. boiler is one of the first in this country designed to operate on pulverized coal with automatic boiler control. The various departments such as distillation, redistillation, wax plant, refrigerating plant and compounding plant require great amounts of steam for successful and uniform operation.

At the right may be seen the Brown Recording Integrating Flow Meter measuring steam output from the boiler and the Brown Recording Co_2 Meter recording CO_2 in flue gases. By means of the flow meter the total flow of steam as well as rate of flow for any period may be instantly read directly from the chart. No need to "log" integrator counter. Learn more about this better electric flow meter—write for Catalog No. 21.

THE BROWN INSTRUMENT COMPANY
4488 Wayne Avenue, Philadelphia, Pa.
Branches in 20 principal cities.

Brown Electric Flow Meter

"To measure is to economize"

NEW MEXICO HELD STAGE IN FIRST HALF

(Continued from Page 152)

other producing structures in that area and possibly some of the domes which were barren in the shallow horizons.

NEW MEXICO

Summary Wells Completed First Six Months, 1929

County—	Comp.	Prod.	Dry	Gas
Chaves	4	0	4	0
Eddy	12	1,886	7	1
Guadalupe	1	0	1	0
Lea	23	2,478	13	7
McKinley	3	0	3	0
San Juan	4	0	4	0
San Miguel	1	0	1	0
Catron	1	0	1	0
Union	1	0	1	0
Curry	1	0	1	0
Total	51	4,364	36	8
Same period, 1928	38	864	24	4
Difference	13	3,500	12	4

Completions by Months

	Comp.	Prod.	Dry	Gas
January	5	0	4	1
February	21	165	15	4
March	5	1,200	3	1
April	8	533	5	1
May	8	2,466	5	1
June	4	0	4	0
Total	51	4,364	36	8

COLORADO

While there were no new pools discovered in Colorado during the first half of 1929, some progress was made in defining the limits of producing pools and exploring deeper horizons. The Wellington Pool in Larimer County, which is operated by the Continental Oil Co., was extended one-quarter of a mile to the south and west by the completion of No. 2 Elder, NE SW NE, Section 18-9n-68. This well, which was put on production in March from the Muddy sand at 4,492-4,504 feet, made 400 bbls. the first 24 hours. One string of tools is being operated steadily on this structure and the new wells completed have just about maintained production at the same level during the period.

The Moffat Dome in Moffat County, upon which the Texas Production Co. is the sole operator, had two completions during the six months. Both of these were tests to the Sundance sand which underlies the Dakota from which most of the production heretofore has come. A Sundance test had been drilled previously on the structure, but due to various causes it was not considered conclusive as to the value of the discovery. Water intrusion had given considerable trouble and it was not certain where it originated. The two wells completed were No. 11 Knowlton, SE cor., Section 33-5n-91, which topped the Sundance at 4,543 feet and was drilled to 4,575 feet, and No. 5 Walter Wick, NW, Section 10-4n-91, which topped the pay at 4,837 feet and was drilled to 4,851 feet. The Knowlton well swabbed 680 bbls. initially and the Wick well made 689 bbls. Both of these wells had water in the Dakota, thereby indicating that the Sundance is productive over a larger area than the upper sand, but the limits of the pool in the deeper sand have not been defined.

On the Iles Dome in Moffat County drilling was confined mostly to a few required offsets and the best completion was in the Midwest Refining Co.'s No. 3-SD Shaw, NW NE NE, Section 27-4n-92, in the southern part of the pool, which made 700 bbls. the first 24 hours from the Sundance at a total depth of 3,262 feet. Two wells were drilled on the western and southwestern flanks which about define the limits of the pool in those directions, though both are small producers. One of these is the Texas Production Co.'s No. 36 Lloyd, SE cor., Section 21-4n-92 which was a failure in the Sundance at 3,642-3,862 feet, but was plugged back and may be a small producer in the Morrison. The other was the Midwest's No. 24-SD Parkinson, NE SE NW, Section 22-4n-92, which has not been completed, but was making 20 bbls. of water with the same quantity of oil from 2 feet of the Sundance at 3,560-62 feet. Drilling on the Iles Dome is held down to three to four strings of tools running by all operators, this number including a wildcat on the south which is testing the fault block south of the producing area. Production is pinched in and shows little variation from week to week.

The Mountain Fuel Supply Co. completed a gas well on the Hiawatha Dome in the northern part of Moffat County in its No. 1 State-Reiter-Foster, SE cor., Section 16-12n-100, which proved lower horizons to be productive. The well was completed at 3,585 feet for 3,000,000 feet of gas. The hole had been so reduced that it could not be carried any deeper. Previous to the drilling of this well the deepest horizon tested on the structure was a sand cut in this well at 2,175-2,220 feet which carried water. Not only did the hole cut several sands, these being 42, 107, 34, 4 and 10 feet thick, which had not previously been tested, but in some of these shows of oil were encountered. As the location was down structure, the results indicated a larger area for the lower sands than the productive area in the upper horizons.

Colorado had a small flurry early in the year when a "discovery" was reported in a well drilled by the Rozella Oil Co. 15 miles southeast of Pueblo. However, a number of wells drilled in the vicinity in the next month or two failed to bring in a pool.

COLORADO

Summary of Wells First Six Months, 1929

County—	Comp.	Prod.	Dry	Gas
Fremont	23	855	10	0
Jackson	1	0	1	0
Las Animas	1	0	1	0
Larimer	4	1,056	2	0
Moffat	6	2,124	1	1
Pueblo	3	0	3	0
Rio Blanco	1	0	1	0
Routt	5	429	1	0
Yuma	2	0	2	0
First half, 1929	46	4,464	22	1
First half, 1928	68	6,534	31	1
Difference	22	2,070	9	0

Completions by Months

	Comp.	Prod.	Dry	Gas
January	5	1,048	1	0
February	11	807	5	0
March	7	520	3	0
April	3	280	0	0
May	11	720	9	0
June	9	1,089	4	1
Total	46	4,464	22	1

WYOMING

Drilling operations in Wyoming were at a low ebb during the first half of 1929 and no new pools were discovered. Several structural tests, on the contrary, proved to be failures. Salt Creek, where drilling was restricted during the last half of 1928 to only a few wells, showed more activity during the six months just closed. There were 22 wells completed with an average production of 527 bbls. the first 24 hours. This large average was due to several big wells being completed in the Sundance sand on leases of companies identified with the Midwest Refining Co., one of which had an initial production of 3,247 bbls., another 2,338 bbls. and a third 4,338 bbls. These wells were drilled in order to have a large enough number in July to make a production test of the Sundance sand wells. Heretofore the production has been taken from the first and second Wall Creek, but during the first half of the present year, the Lakota sand wells also were on production and to this list a dozen or more Sundance sand wells will be added in July. Beginning on January 1, 1929, the royalty oil in Salt Creek, around 5,000 bbls. a day, went to The Texas Company and the White Eagle Oil & Refining Co. under a joint bid of 21¾ cents a barrel premium over posted prices. A deep test is to be drilled in Salt Creek this year to test horizons below the Sundance which heretofore have not been drilled.

The Frannie Field in Park County was extended one-quarter of a mile to the northwest in the Midwest Refining Co.'s No. 36 Kirk-Peters, SE cor., Section 23-58-98, the only well drilled to completion since the pool was opened up last year. It was completed at 2,811 feet in the Embar and made around 125 bbls. initial. A well drilled to the southeast of the discovery, a quarter of a mile, proved a failure in the Embar, but is being continued to lower horizons. It was

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intended as a test of a fault block, but it cut through the fault and reached the Embar south of the fracture and, therefore, was not a test of the area between the two faults that cut across the structure.

A failure resulted in a test drilled by the Prairie Oil & Gas Co. in its No. 1 Chilcote, Section 35-56-95, on the Little Sheep Mountain structure in Big Horn County. This well was drilled to the granite for the purpose of testing the Deadwood formation which previously had been explored in only one other well in Wyoming. The Prairie well found only a little gas and water and was abandoned in the granite at 3,035 feet.

The Union Oil Co. of California drilled a wildcat on the Little Laramie structure in Albany County in its No. 1 Herrick, NE SE, Section 1-16-76, and failing to find anything in the Dakotas, abandoned it at 2,211 feet.

The principal operators in the Oregon Basin Field in Park County held their drilling program down to only two or three wells, but some of the wells started last year by independents defined the limits of the saddle between the north and south domes, a narrow strip which had several large wells at the start but most of which have since shown water in considerable quantities. The wells which had water in the Embar included the Wyoming Western Oil Co.'s No. 3 Hough, SE SE, Section 18-51-100, drilled to 4,008 feet; Wisconsin Holding Co.'s No. 2 Rousch, SW SW, Section 9-51-100, which drilled into water at 3,903 feet; the Lenco Petroleum Co.'s No. 1 Lyle, SE cor., Section 24-51-101, abandoned at 4,486 feet; and the Big Horn Petroleum Co.'s No. 1 Trumbull, SW NE, Section 7-51-100, which had water at 3,883 feet. To offset these failures, the Cody Petroleum Co. went back into its No. 2 Klindt, NE NE, Section 7-51-100, a producer in the Embar at 3,620 feet which went to water, and drilled it down to 4,165 feet where it had a hole full of oil only to drill into water at 4,188 feet. This was the first test to the Amsden on the structure, with one possible exception, and is encouraging for the finding of production in that horizon in other wells on the tops of the two domes.

The Carter Oil Co. drilled a well on the Billy Creek Dome in Johnson County in its No. 1 State, SW cor., Section 16-48-82, which was intended as a test to the Dakota on the flank of the structure. This dome has a number of big gas wells in the Frontier above the Dakota on the top of the structure. No. 1 State was drilled to 3,240 feet, about 30 feet in the Dakota, and made several spectacular displays which gave promise of opening a new light oil pool. However, it failed to come up to expectations as the oil was dead and not in very large quantities.

WYOMING

Summary of Wells Completed First 6 Months, 1929

District or County—	Comp.	Prod.	Dry	Gas
Salt Creek	20	8,217	1	0
Albany	1	0	1	0
Big Horn	2	0	1	1
Carbon	2	150	0	0
Fremont	2	5	1	0
Johnson	1	0	1	0
Natrona (exclusive Salt Creek)	1	150	0	0
Park	5	1,322	1	0
Sublet	3	36	2	0
Weston	2	90	0	0
First half, 1929	39	9,870	8	1
First half, 1928	105	7,586	45	4
Difference	66	2,284	37	3

Completions by Months

	Comp.	Prod.	Dry	Gas
January	4	651	1	0
February	7	2,664	1	1
March	4	4,935	0	0
April	5	396	2	0
May	3	118	1	0
June	16	1,106	3	0
Total	39	9,870	8	1

UTAH

Utah failed to score during the first half of 1929 with any important discoveries though one wildcat at the end of that period held out favorable indications. This is the Continental Oil Co.'s test on the Boundary Butte Dome in San Juan County in the NW NW, Section 22-43-22. This well was started several years ago to test the Pennsylvanian formations and it is at present in the lower horizons of that formation at a depth of more than 5,200 feet. It has found gas in several breaks in the lime but so far has failed to encounter an oil reservoir though it has had good oil shows. It is making better than 16,000,000 feet of gas a day while drilling is in progress. Boundary Butte is a large structure and geological conditions are similar to those at Rattlesnake in northwestern New Mexico where the same company has found oil in the Pennsylvanian in the only well drilled to that horizon. North of this area quite a distance, the Utah Southern Oil Co. completed a test on the Cane Creek Dome in its No. 1-A J. L. Shafer, Section 36-26-20, which was abandoned at 4,107 feet in salt. This well was started on the flank to test the theory that the Cane Creek and other domes along the Colorado River were salt domes. A well drilled on top several years ago showed considerable oil in lime and shale breaks in the immense beds of salt, but the results in the flank test seem to bear out the theory that the salt beds in that general region are rather uniform over a wide area regardless of structural conditions. The Price River Petroleum Co. drilled a test in Carbon County in Section 16-14s-10, that was a failure at a total depth of 3,074 feet, and the Utah Southern drilled to 3,000 feet in its No. 1 Farnsworth, Section 29-4s-1e, in Uintah County. The latter is shut down and may be drilled deeper. It was a test of the Tertiary beds which in the 3,000 feet drilled failed to disclose any important sands. There was comparatively little drilling in Utah during the first half of the year.

UTAH

Summary Wells Completed First Six Months, 1929

County—	Comp.	Prod.	Dry	Gas
Uintah	1	0	1	0
Utah	1	0	1	0
Carbon	1	0	1	0
First half 1929	3	0	3	0
First half 1928	6	0	3	3
Difference	3	0	0	3

Completions by Months

	Comp.	Prod.	Dry	Gas
January	2	0	2	0
February	0	0	0	0
March	0	0	0	0
April	1	0	1	0
May	0	0	0	0
June	0	0	0	0
Total	3	0	3	0

MONTANA

Although several new districts in Montana were considered promising at the end of the first half of 1929, no additional producing areas were recorded during the six-month period. Work was late in getting under way in the spring, for Montana suffered one of the hardest and longest winters of recent years. The Kevin-Sunburst Field was tied up until March, and some of the outlying wildcats were not able to resume work until late in April or the first of May. However, there was much activity to be noted at the end of the half year.

Early in the year operators in the Kevin-Sunburst Field announced extensive drilling plans for the summer, but on account of the weather the consummation of these plans was delayed and it was not until the middle of June that the work could be considered in full swing. There have been a number of good wells completed in the field, but no notable extension of productive territory. Wells in the Hannah Porter Pool showed a surprising increase in production when opened up after the winter shutdown, arousing considerable interest among oil men who have been unable to explain this periodical happening in the Kevin-Sunburst Field. Work continues on the Adanac and Potlatch deep tests, both of which have passed the 4,500-foot level. The Adanac well reported a showing of light oil at 4,598 feet. Late in June the Texas Pacific Coal & Oil Co. started a 5,000-foot test on the State School sec-

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tion, which has afforded so many good producers.

Pondera Extended

The Pondera Field not only fulfilled the promise of its earlier days but several very good completions on the west side of the field extended the proven area and will influence future operations. The Kevin Corp. found two good producers on the NW quarter of Section 16-27-4, west of production, while the Warren Oil Co. completed a 50-bbl. well on the NE quarter of Section 17-27-4. The control of the major portion of the field passed into the hands of the Midwest Refining Co. in the spring, when this company took over the holdings of the Continental Development Co., consisting of the Jones, Gjullin and Wheeler tracts. The transfer included over a dozen producing wells with an output of approximately 1,000 bbls. a day.

The partly constructed pipe line of the Pondera Pipe Line Co., controlled by the Continental Development Co., passed to the Midwest and the Ohio Oil Co. through the same transaction. This line was completed and put in operation in March. An effort is being made to extend the Pondera Field to the north, the Alice Oil Co. having started a test three and a half miles from the center of the field. Pondera crude was bringing $1.95 a barrel at the well at the end of the half year.

New Pay Sand in Bannatyne

A new producing sand was found in the Bannatyne Field by the Producers Independent Oil Co., 15 feet below the Emrick sand, which carries the main production of the field. Several wells were completed in Bannatyne during the last month, the best of these being the Hardrock Oil Co.'s No. 4 Speer, which is making 25 bbls. Early in the year the Hardrock Oil Co. announced that it would lay a pipe line from the field to the railroad, but no work has been done on this line. In June the Texas Pacific Coal & Oil Co. started a production test in the Bannatyne Field and the results of this test will determine the fate of the pipe line project.

The Cat Creek Field reports no activity except the pumping of old wells. Government royalty oil, contracted to the Yale Oil Corp. early in the year, will be refined at a skimming plant now under construction at Billings. Crude shipments are being made regularly from the Lake Basin Field, and several additional wells will be put in this locality to furnish additional gas for the Crystal Carbon Co. plant at Jacobus.

Curb on Wildcatting

Operators in Montana prophesied the greatest wildcat activity of recent years for the summer of 1929, but the government's restriction on public land exploration put a curb on this. A number of old wells are being opened up and put to drilling again in order to hold permits granted some time ago. The wildcatters found showings of oil at Bear's Den in the Sweetgrass Hills, and Black Horse Lake, near Great Falls, also a good gas prospect on Lost Creek, but these were counterbalanced by the abandoning of several rather important tests. The Ohio Oil Co. is making another effort to find oil on the Dry Creek structure in southern Montana, where a good flow of wet gas was found last year in its first well. This gas has been piped from Dry Creek to a point on the Elk Basin-Billings line and will be used as an emergency supply for the city of Billings.

A number of good gas wells were completed in the Baker-Glendive district during the six-months' period. A number of gas line projects are being considered by Montana operators, and if these materialize there will be an intensive drive to develop more gas production in the Baker and Kevin areas, as well as in wildcat territory.

Montana producers will profit by a cut of approximately 28 per cent in railroad rates on petroleum and petroleum products, made by the State Railroad Commission early in the year. The cut was scheduled to go into effect July 1, but the railroads endeavored to block enforcement by injunction. The complaint of the railroads, however, was dismissed by the United States District Court.

MONTANA
Completions by Districts First Six Months of 1929

District—	Comp.	Prod.	Dry	Gas
Cat Creek	0	0	6	0
Kevin-Sunburst	54	1,913	14	6
Pondera	63	5,417	1	0
Bannatyne	7	151	0	0
Stillwater County	1	0	0	1
Liberty County	2	0	1	1
Teton County	1	0	1	0
Fallon County	5	0	0	5
Yellowstone County	1	0	1	0
Carbon County	1	0	1	0
Fergus County	1	0	1	0
Blaine County	1	0	1	0
Pondera County	1	0	1	0
First 6 months 1929	138	7,481	22	13
First 6 months 1928	131	10,496	43	24
Difference	7	3,015	21	11

Wells Completed by Months

Months—	Comp.	Prod.	Dry	Gas
January	26	2,508	3	0
February	11	520	1	2
March	11	500	0	1
April	14	503	2	2
May	23	1,097	3	1
June	53	2,353	13	7
Total	138	7,481	22	13

LA.-ARK. DISTRICT HAS TWO NEW POOLS

(Continued from Page 155)

March 4. Six and five-eighths-inch casing was cemented at 2,388 feet, and there it stood until May 2 while the owners were dickering for a sale to the Standard Oil Co.

The resulting contract was a highly complicated affair, but as soon as it was signed the Standard proceeded to complete the test, which flowed 150 bbls. in the first 13 hours. It quit flowing and when cleaned out and liner set started flowing 340 bbls., and was listed as an 185-bbl. producer in broken sand from 2,390 to 2,422 feet. All production to date is from four wells in Section 18-19-14, three in Section 17-19-14 and one in Section 8-19-14.

Of the four dry holes in the district, one is in the discovery section offsetting a producer. It is the Standard Oil Co. of Louisiana's No. 4 Hunter in the CSL SW NW of Section 17-19-14, and was abandoned at 2,616 feet without finding a lens of the producing sand. Early in the pool's career Lide & Davidson drilled No. 1 Glassell, NE cor. SW SW, Section 1-19-15, northwest of the discovery well and tested dry in broken formation at 2,410-52 feet, abandoning the hole at 2,512 feet without picking up any more sand. Root Refineries' dry hole was on the Liebman land in Section 12-17-14, 5 miles east of the discovery. The company drilled to 2,588 feet and abandoned the hole without testing, finding nothing to warrant it. Standard Oil Co. got a second dry hole in No. 1 Henderson, SE cor. SE NW, Section 7-17-14, about a mile northwest of the discovery well, abandoning the test at 2,427 feet on account of salt water, with only a show of oil in the typical broken formation of the pool.

Gulf Refining Co. brought in the biggest completion to date. The Gulf's well was No. 1 Oden, NE cor. Section 18-19-14, which blew in through the drill stem on June 6, making 40 bbls. the first half hour, and 150 bbls. an hour from then on until the drill stem was removed, when it was turned into the tanks as a 3,285-bbl. initial producer, total depth 2,400 feet. The company's No. 2 Oden, in the NE cor. SE SE of the same section, was completed a week later, June 15, pumping 20 bbls. from broken sand at 2,383-2,423 feet.

The second big well was completed the first week in July at 2,406 feet. It was Gulf Refining Co.'s No. 4 Oden, SW cor. NE NE, Section 18-19-14, and was estimated at 1,018 bbls. initial, but the second day after completion dropped to 22 bbls an hour, or 528 bbls. per day. Two days before Gold & Sklar's No. 1 Hunter, NW cor. SW NE, Section 17-19-14, was completed, flowing 700 bbls. from 12 feet of broken sand, total depth 2,416 feet, after it had been bailed in the day before with an estimated 1,600 bbls.

Fall Off Rapidly

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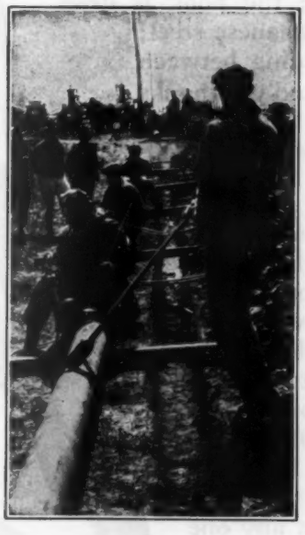

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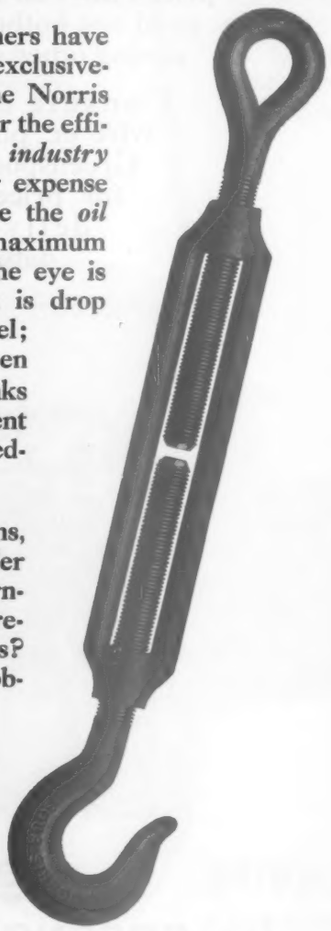

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Mount Holly, and Champagnolle for that matter, drop rapidly from their initial production which accounts for the fact that the eight wells completed since the rapid development of the field was signalized by the Gulf's big well early in June, have produced only 42,474 bbls., of which this big well has furnished the bulk, though it is now down to around 500 bbls. a day.

As soon as it became apparent that the pool was going to have considerable play, Dixie Oil Co. built 4 or 5 miles of 4-inch line to a "dead" line of the same size belonging to the Magnolia Petroleum Co., through which it makes connections with its Superior-Pine Island 6-inch line supplying its refinery at Superior.

Future of Pool Uncertain

The future of the pool despite its uncertain characteristics is considerably brighter than that of Mount Holly district. There are 19 operations under way with offsets bound to follow some of them. To the south there appears prospects of a successful completion in Section 20-19-14, D. C. R. Oil Co., drilling No. 1 Oden in the NE cor. NW of the section, a mile south of the discovery well, tested seven drill-pipe joints of oil at a total depth of 2,423 feet, and is waiting for 6⅝-inch casing to set for a test. Surface elevations in the Dixie district are practically uniform, and this total depth, greater than any other producing well in the field, indicates either another lens at lower sub-sea elevation, or a rather abrupt dip in the producing horizon, depending upon which of the two theories regarding the nature of the producing formation the observer chooses to accept. At any rate, the D. C. R. well looks like a small pumper, and if so, will undoubtedly be offset.

Half Year in Champagnolle

Champagnolle, in northeastern Union County, Arkansas, the third active oil producing district in this division, has gone into its long decline. The only excitement occurring in that area was the development of production in the southwest corner of the eastern extension in a section which had been condemned by a dry hole completed some time before. Ohio Oil Co. completed No. 1 Raulston, SE cor. NE SE Section 12-17-14, about the middle of March, flowing 2,500 bbls. of fluid, 20 per cent water, through a 7-16-inch choke from four feet of sand, total depth 3,037 feet. At this rate it was an estimated 12,000-bbl, potential producer, but it never was allowed to flow that much for fear of going to salt water entirely, so was listed as a 500-bbl. producer.

The location was a half mile east of a salt water well completed first at 3,179 feet and later deepened to 3,251 feet and abandoned. Also, it is a mile northeast of a well drilled by the Pure Oil Co. on the Gaddy lease, and abandoned at 3,804 feet, the deepest well in the entire Champagnolle district, after it had failed to develop anything looking like production on either of a series of tests at lesser depths. It was a half mile southwest of the nearest production in the eastern extension, and was followed a month later by No. 1 B. H. Raulston in the NE cor. SE SE of the same section, making 175 bbls. of oil and 1,000,000 feet of gas from 3,017 feet.

About the middle of June the Ohio Oil Co. followed up these successes by extending production on this "pimple" a quarter mile west, completing No. 1 E. Raulston, NE cor. SW SE, Section 12-17-14, making 360 bbls. by heads from 32 feet of broken sand, total depth 3,041 feet. No. 1 Oliver in the NW cor. SW SW, Section 7-17-13, offsetting the B. H. Raulston well, completed April 16, made 3,000 bbls., 40 per cent water, through 1½-inch choke from 6 feet of sand, total depth 3,048 feet. Arkansas Natural Gas Corp. completed No. 1 Morris in the SW cor. NW SW, Section 7-17-13- offsetting the Ohio's Oliver and Raulston wells, flowing 1,112 bbls oil and 900 bbls. salt water from 7 feet of sand, total depth 3,037 feet, and there the development of this particular "hickey" appears to have stopped, though activities continued elsewhere in the extension, production on the eastern edge of which has been limited by salt water holes in the NE and SE of the SW. Inside wells were uniformly successful at the same approximate sub-sea levels, and two or three big gassers also were completed.

Quiet in Old Fields

In the older part of the field, activity was at a standstill compared with development last year. An occasional small producer and an occasional gas well in the northwest corner of the area excited little attention, but meanwhile there were two deep tests that proved failures. One of these was Oilwell Corp.'s No. 3-C Pardue, in Section 9-17-14 which, after making gas, oil and salt water separately and collectively at various shallower levels, was abandoned as a salt water hole at 3,310 feet. It had offset production south and east and a quarter of the north. H. L. Hunt abandoned No. 6 Gregory, NE cor. NE NW, Section 15-17-14, in the heart of the field and surrounded by production, as a salt water hole at 3,401 feet, the deepest in the old pool, after testing salt water in the 2,800-foot and 3,200-3,300- foot lenses. Lion Oil Refining Co.'s deep test No. 5 Union Sawmill, SW cor. NW NE, Section 7-17-13, was junked at 4,533 feet, being made a deep test after it had failed to get production anywhere along the line down to the last productive level, around 3,200 feet.

Zwolle Gives Promise

In the Zwolle district of Sabine Parish, about 20 miles south of the Pleasant Hill Pool, R. L. Gay, who opened production with No. 2 Bowman-Hicks in Section 14-7-14, flowing 50 bbls. initial from 2,130 feet last December, brought in his second producer, No. 3, on the same lease and section, flowing 10 bbls. initial from broken formation at 2,142-78 feet. The peculiarity of both of these wells is that, instead of declining, they have increased their production until at present, the discovery well is flowing around 70 bbls. and the second is averaging close to 30 bbls. per day. Standard Oil Co. built 20 miles of 4-inch from the Pleasant Hill Pool to take care of this production. Gay recently announced plans for a series of 22 wells on another block of acreage a few miles southeast of his Zwolle wells.

Cotton Valley was dormant except for an occasional gasser in the 4,500-4,800-foot horizon of the Trinity group, chief of which was Palmer Corp.'s No. 4 Tillman, C NW NW, section 28-21-10. Completed January 1 at 4,625 feet, making 22,000,000 feet of gas at 1,750 pounds rock pressure, the well has maintained both volume and pressure with only slight diminution ever since. Closely paralleling this well was the Magnolia Petroleum Co.'s No. 6 Marshall, C SW SE, Section 21-21-10, gauging 42,000,000 feet at 1,600 pounds rock pressure, total depth 4,652 feet. Most of the deep gassers in Cotton Valley have been unable to rock up more than 600 to 700 pounds initial and have declined rather quickly in both volume and pressure. The deep gas area was extended February 14 a quarter-mile east when Cotton Valley Syndicate completed No. 19 Hope in the SW NW, Section 24-21-10, making 4,500,000 feet of gas at 650 pounds, total depth 4,700 feet, and giving the deep gas production a surface area of an extreme width of two miles in all four directions.

Politicians Slow Up Development

From all the foregoing it would seem that there has been considerable activity in the north Louisiana part of this division in spite of the comparative suspension of all activity except that necessary to preserve and protect leases, due to an antagonistic attitude on the part of the head of the state administration. However, this shutdown has not applied to the Monroe and Richland gas districts, where the completion late in December of one pipe line of major proportions and the construction of three others now under way, has made advisable accumulation of reserves that are immediately available on their completion.

The resultant drilling activity has run up a total of 24 completions in the Richland Field, of which 18 were successful,

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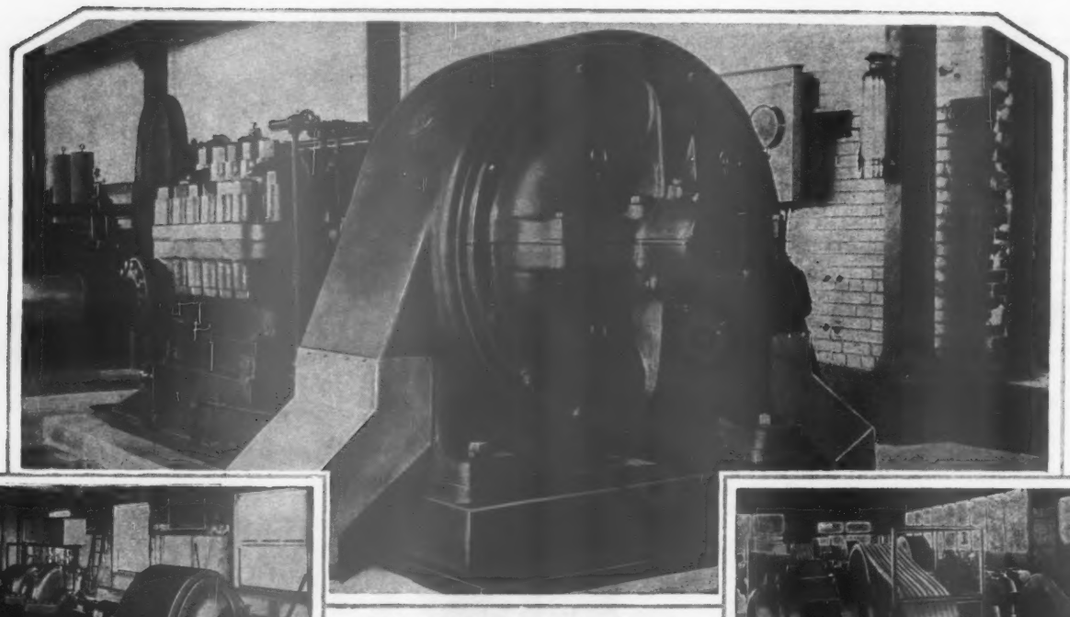

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and had a total open flow of 588,287,000 feet of natural gas at rock pressures averaging between 600 and 700 pounds, with an occasional well running up close to the extreme of 1,100 pounds. The parts of Morehouse, Ouachita and Union Parishes comprising the Monroe Field, totaled 75 completions, of which 69 were producers with an initial open flow of 440,044,000 feet at pressures varying over a much wider range than those in Richland. On an average, between one-quarter and one-half of this open flow, added to that already available, will be available under the Conservation Department's restrictions on the pull on individual wells.

Probing Flood Control Plan

During the time since the threat against both fields contained in the Jadwin Flood Control Plan was called to the operators' attention through an Oil and Gas Journal representative and the Mid-Continent Oil and Gas Association's Louisiana-Arkansas division, they have joined forces with the Tensas Basin Flood Control organization and instituted a survey of the threatened area by Ford, Bacon & Davis, whose report will be presented to the proper authorities with recommendations. Recent newspaper dispatches from Washington indicate that this will be during the next regular session of Congress at which Congressman Riley Wilson, of the Fifth Louisiana district, and Frank Reid, of Illinois, both influential members of the Congressional Flood Control Committee, plan a sweeping investigation of the entire Jadwin plan.

Great Gas Consolidation

Resulting from the Monroe-St. Louis gas line project now under way, a great consolidation of natural gas producing interests took place during the spring, the consolidation emerging as the Louisiana Gas & Fuel Co., owning and controlling more than 2,000,000,000 feet per day open flow production, and the bulk of the producing acreage in Caddo, Bossier, Webster, Union, Ouachita, Morehouse, Richland and East Carroll Parishes, and Panola County, Texas, together with gasoline plants, pine lines, gathering systems, etc. Companies in the consolidation were the Industrial Gas Co., Palmer Corp., Natural Gas Producing Co. of Louisiana, Ouachita Natural Gas Co., Morehouse Natural Gas Co., Northern Louisiana Natural Gas Co., Southern Gas & Fuel Co., Panola Oil & Gas Co., Excelsior Pipe Line Co., U. S. Carbon Co., and W. W. Stalin. Several of these are Electric Bond & Share subsidiaries.

Besides this consolidation there were several trades of large proportions, the largest being the taking over by the Hope Producing Co. of all the Standard Oil Co. of New Jersey and its Louisiana subsidiaries' gas interests in this territory. The Hope company itself is a Standard of New Jersey subsidiary organized for the purpose, and is more or less intimately connected with the Monroe-St. Louis line, as, for that matter, is the consolidation just described. It took over all the gas rights on approximately 6,000 acres of fee lands in Ouachita Parish, and 2,300 acres in Richland, and also on the Ohio Oil Co. in Richland, amounting to approximately 1,200 acres. Another such transaction was the transfer to the Palmer Corp. by Oliver & Master, of all their production and acreage in Richland Parish.

Natural Gasoline

So far there are only two natural gasoline plants in the Richland Parish field, the one recently completed by the Palmer Corp., at Alto, which has a capacity of 100,000,000 feet of gas per day, and since completion during the latter part of June has been running an average of 90,000,000 feet, from which the recovery averages 3¼ gallons per 1,000 feet. The other is under construction near Archibald, a short distance southeast of production, by the International Gas Products Co. In connection with it there will be the first carbon plant in Richland. It will use residue gas from the absorption plant and will consist of 30 units burning 15,000,000 feet of gas daily, from which a recovery of 20,000 pounds of black is anticipated. Construction of the carbon plant followed a decision of the United States Supreme Court to the effect that the state cannot prohibit consumption of gas for carbon making, although it may limit it.

Two Gas Field Extensions

Two extensions—southeast and to the north—linking up the northern and southern divisions of the field, were made during the first half of the year. Richland Producing Co., a Moody-Seagraves organization, completed No. 1 Hemler in the SE Section 2-16-6, proving up a lot of territory and extending production a mile and a half east from the nearest well. It made 49,000,000 feet of gas at a total depth of 2,450 feet. The southeastern extension was International Gas Products Co.'s No. 1 Kate Humble in the NW NW, Section 35-16-6, 1½ miles from the nearest well in the far southeast corner of production. It was a small well, only 300,000 feet at 2,488 feet, about 50 feet lower than the average Richland well, but nevertheless an extension opening up a large amount of vacant territory between it and the nearest producers west, north and northwest.

Recently activity in Richland has centered in the north end where a majority of the field's 24 operations are located, 12 of these being drilling wells and 12 rigs. In the Monroe district, where development has been without any outstanding features except for an occasional completion of larger than average volume and pressure, there are 15 rigs and 29 wells drilling. Success of development in Richland has been marred by the development of two more gas craters, one in the north edge of the field that extended proven area but is a menace to that area because of the barely 50-50 chance of killing it, and the other in the southern part of the district, which is equally doubtful.

Deep Drilling General

Deep drilling has been general throughout the division, with definite success so far only in Cotton Valley. Dixie Oil Co.'s No. 92 Dillon in Section 13-21-15, Pine Island district, Caddo Parish, has passed 6,200 feet without developing any showings below 6,008 feet, where it blew out and looked like a tremendous gasser until it bridged. When cleaned out and deepened a few feet the best it could do was 142,000 feet of gas. Magnolia Petroleum Co.'s No. 1 McCook & Hibbler in Section 22-21-10, Cotton Valley district, Webster Parish, also has passed 6,200 feet and had 50 feet more hole than the Dixie's well on last report. It tested 300,000 feet of gas at 4,722 feet and only a slight show on another test at 5,450 feet, with a salt water test in between. Webster Parish added 13 gas wells to the division's total for north Louisiana, having an open flow of 203,133,000 feet, and most of them being in the Sarepta-Shongaloo district north of Cotton Valley. There were three rigs and 11 wells drilling in the division at the end of June.

NORTH LOUISIANA

Completions by Parishes

	Comp.	Prod.	Dry	*Gas
Bienville	3	0	1	2
Bossier	17	5	12	4
Caddo	46	4,499	16	3
Claiborne	1	0	1	0
DeSoto	15	110	10	3
East Carroll	3	0	2	1
Franklin	1	0	1	0
Grant	2	0	2	0
LaSalle	13	495	8	0
Madison	1	0	1	0
Morehouse	19	0	1	18
Ouachita	43	0	3	40
Rapides	2	0	2	0
Red River	5	87	0	1
Richland	22	0	4	18
Sabine	4	20	2	0
Tensas	1	0	1	0
Union	13	0	2	11
Webster	20	198	5	13
Total	231	5,414	74	114

*Initial gas production: Bienville 16,000,000 feet; Bossier 16,000,000 feet; Caddo 9,050,000 feet; DeSoto 6,153,000 feet; East Carroll 31,010,000 feet; Morehouse 159,348,000 feet; Ouachita 202,317,000 feet; Red River 50,000 feet; Richland 588,287,000 feet; Union 78,397,000 feet; Webster 203,133,000 feet; total 1,400,206,000 feet.

Completions by Months

	Comp.	Prod.	Dry	Gas
January	32	218	11	17
February	26	120	13	10
March	32	135	11	17
April	49	485	13	24

(Continued on Next Page)

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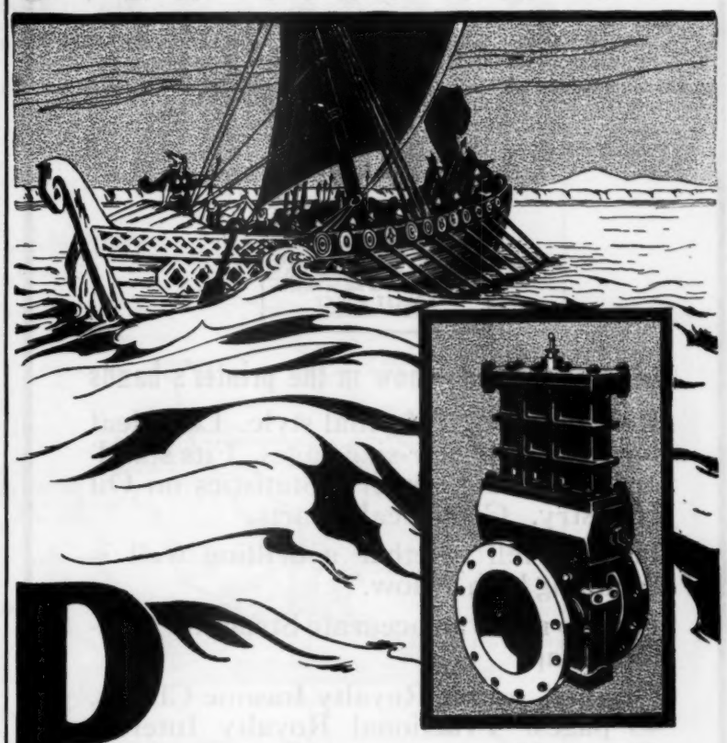

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May	39	465	16	18
June	53	3,991	10	28
Total	231	5,414	74	114
First 6 mos. 1928	300	7,891	124	140
Difference	69	2,477	53	26

ARKANSAS

Completions by Counties

	Comp.	Prod.	Dry	*Gas
Ashley	2	0	2	0
Bradley	3	0	3	0
Calhoun	2	0	2	0
Chicot	2	0	2	0
Columbia	3	0	3	0
Clay	1	0	1	0
Draw	1	0	1	0
Jackson	1	0	1	0
Johnson	3	0	1	2
Logan	1	0	1	0
Miller	1	0	1	0
Nevada	5	110	1	0
Ouachita	23	1,119	10	0
Pulaski	1	0	1	0
Union	88	14,026	40	11
Total	137	15,255	70	13

*Gas production: Johnson 16,759,750 feet; Union 297,018,690 feet; total 313,778,440 feet.

Completions by Months

	Comp.	Prod.	Dry	*Gas
January	28	4,122	9	5
February	27	1,180	15	2
March	20	3,260	9	1
April	18	4,339	10	1
May	23	693	15	2
June	21	1,631	12	2
Total	137	15,255	70	13
First 6 mos. 1928	131	55,443	64	5
Difference	6	40,188	6	8

*Initial gas production 313,778,440 feet.

EAST TEXAS

Completions by Counties

	Comp.	Prod.	Dry	*Gas
Cass	1	0	1	0
Harrison	12	0	3	9
Marion	1	15	0	0
Panola	33	25	6	26
Red River	1	0	1	0
Total	48	40	11	35

*Gas production: Harrison 10,650,000 feet; Panola 175,132,000 feet; total 185,782,000 feet.

Completions by Months

	Comp.	Prod.	Dry	Gas
January	9	0	3	6
February	7	0	0	7
March	6	0	2	4
April	12	15	4	7
May	6	25	0	5
June	8	0	2	6
Total	48	40	11	35
First 6 mos. 1928	80	42	20	56
Difference	32	2	9	21

MISSISSIPPI

Completions by Counties

	Comp.	Prod.	Dry	Gas
Calhoun	1	0	1	0
Clark	1	0	1	0
Itawamba	1	0	1	0
Jackson	1	0	1	0
Jasper	1	0	1	0
Lee	1	0	1	0
Lincoln	1	0	1	0
Monroe	3	0	3	0
Rankin	2	0	2	0
Sharkey	1	0	1	0
Simpson	1	0	1	0
Stone	1	0	1	0
Washington	1	0	1	0
Total	16	0	16	0
First 6 mos. 1928	4	0	3	1
Difference	12	0	13	1

Completions by Months

	Comp.	Prod.	Dry	Gas
January	0	0	0	0
February	4	0	4	0
March	9	0	9	0
April	2	0	2	0
May	0	0	0	0
June	1	0	1	0
Total	16	0	16	0

ALABAMA

Completions by Counties

	Comp.	Prod.	Dry	Gas
Choctaw	1	0	1	0

Completions by Months

	Comp.	Prod.	Dry	Gas
May	1	0	1	0

WESTERN TENNESSEE

Completions by County

	Comp.	Prod.	Dry	Gas
Madison	1	0	1	0

Completions by Months

	Comp.	Prod.	Dry	Gas
March	1	0	1	0

AMAZING ACTIVITY IN AMERICA'S OLD FIELDS

(Continued from Page 148)

was found in the Nigger sand at a depth of only 395 feet.

The crude market was firm at around $4 a barrel during practically all of the half year. This is considered a profit-taking price by many of the producers in this area, and they have been devoting much time to improving the production of their wells. Drilling activity has increased some and would be even greater were it not difficult to secure first class drillers, most of whom have gone to the Bradford Field.

Outside of the sending of Bradford crude into the Pennsylvania refinery district, there were only two developments in the pipe line situation for the period. The National Transit Co. started to pump oil through its sysem from the eastern seaboard into the Pittsburgh district, the transportation of Texas crude from the seaboard to the Franklin territory the previous year having proven successful. The Southern Pipe Line Co. sold one of its lines traversing the state to the Manufacturers Light & Heat Co. for approximately $1,000,000.

The outlook for the last half of the year is exceptionally bright. With crude selling for $4.05 a barrel, except in the Bradford and Allegany Fields where the producers selling under contract procure $4.30, there should be considerable activity throughout the territory. This should result in a still greater increase in production and be an aid to the various oil well supply concerns and pipe lines as well as to the producers and lease holders.

In the Old Southwest

Operations in the lower fields for the first six months of the current year were of the routine order. No new pools were discovered and no appreciable extensions to the old fields were made. In the deep sand territory in southeastern Ohio there were enough good producers completed to keep the eastern fields from showing a decline in new production. These good wells are all located inside of defined limits. The southwest Pennsylvania and West Virginia Fields completed a few more wells than southeast Ohio, but the new Ohio production amounted to more than twice as much as West Virginia and southwest Pennsylvania.

Market Advanced

There was but one change in the credit balance market for crude of the regular Pennsylvania grade. On January 4 it was advanced from $3.75 to $4 a barrel. Operators claimed they could not drill profitably when it was below $4. There was not the response to drilling that was expected after the rise in price, and at the close of the first six months there was very little difference between the number of rigs and drilling wells compared with the close of the preceding six months. This was due to the scarcity of new territory. There was no incentive to greater activity in the old fields, where the best that could be hoped for were light pumpers.

Southwest Pennsylvania

The southwest Pennsylvian fields completed one remarkable producer. It is the Manufacturers Light & Heat Co.'s No. 5 on the Day farm, located in Morris Township, Washington County. It was drilled in April 2 and flowed 415 bbls. the first 24 hours. At the end of June it was still holding up at 100 bbls. a day. No other well in the eastern fields this year showed such staying qualities.

The first six months witnessed the passing of the sensational little pool in Buffalo Township, Butler County. The wells declined rapidly and the entire daily production of the pool is now down to less than 150 bbls. a day. It was short lived but a merry one while it lasted. The southwest Pennsylvania fields completed only 106 wells during the six months.

WEST VIRGINIA

Early in the year it was thought that a new pool had been discovered in Ravenwood district, Jackson County, W. Va., Several fair producers were completed, but subsequent developments failed to show that it had either length or breadth. Owing to the activity of the gas companies, more gas wells were completed than oil wells. In several counties there is still great activity in the gas areas.

One Deep Test Drilling

There was almost nothing doing in the way of drilling deep tests. The chances for finding production in a formation lower than hitherto known is too hazardous to look inviting. In Rush Creek Township, Fairfield County, Ohio, the Hope Construction & Refining Co. is drilling

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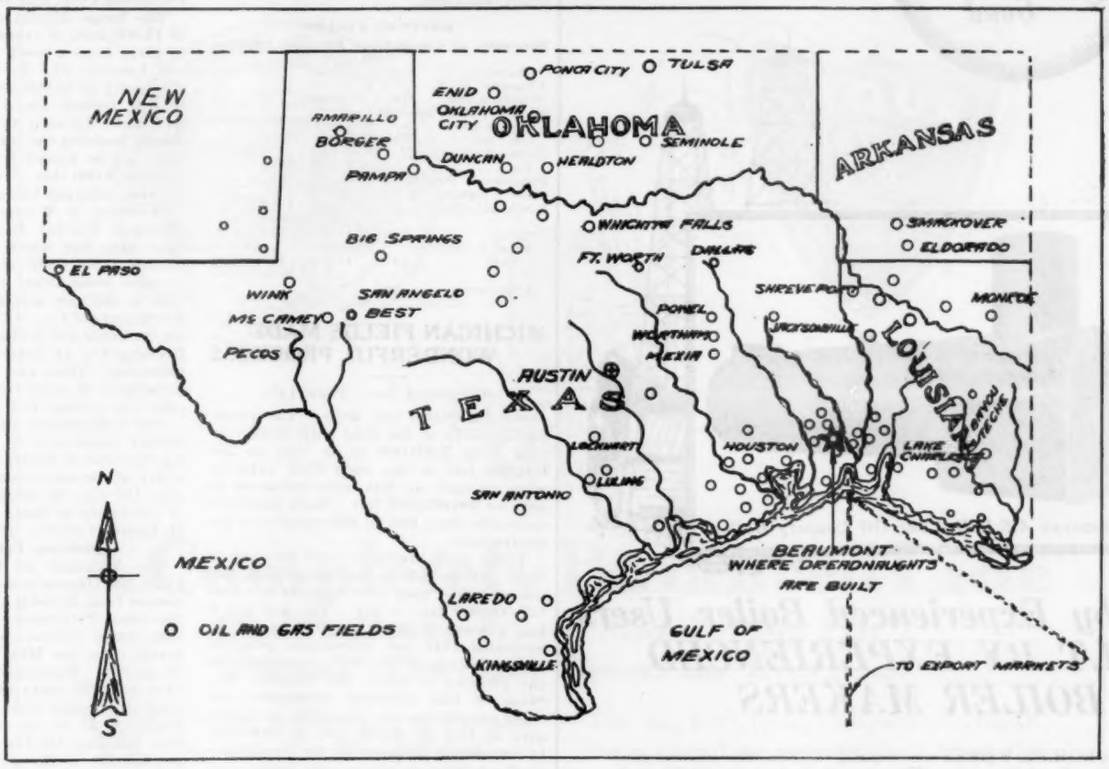

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a deep test on the S. W. Black farm. It is now drilling at 5,050 feet, and at that depth has found neither oil nor gas.

Producing Property Sold

The only sale of any magnitude that took place was that of the Imperial Products Co. when it disposed of its wells and leases in Doddridge and Ritchie Counties, W. Va. The Reno Oil Co. was the purchaser and the price is said to have been about $375,000.

EASTERN FIELDS

Summary of Completions First Six Months, 1929

District—	Comp.	Prod.	Dry	Gas
Allegany, N. Y.	155	307	1	0
Bradford, Pa.	1,135	1,928	4	1
Middle Field, Pa.	36	115	0	1
Venango-Clarion, Pa.	191	275	7	24
Butler-Armstrong, Pa.	67	67	17	10
Southwest Penna.	106	1,137	13	3
West Virginia	393	1,696	66	203
Southeast Ohio	412	6,462	91	70
Total	2,495	11,987	199	312
First 6 months 1928	1,742	14,215	170	348
Difference	753	2,228	29	36

MICHIGAN FIELDS MADE WONDERFUL PROGRESS

(Continued from Page 148)

about 12,000,000 feet daily. The potential capacity of the field with wells running from 5,000,000 to as high as 25,000,000 feet a day open flow capacity when brought in, was once estimated as high as 300,000,000 feet. Rock pressures originally were 900 to 920 pounds to the square inch.

Today rock pressures have dropped to about 400 pounds to the square inch and the estimated open flow capacity is about 125,000,000 feet a day. The gas has a heat content of about 1,000 B.t.u. It is estimated that the hydrostatic pressure of the bottom water will overcome the gas pressure at about 200 pounds. Because of this situation industries now using natural gas are preparing to change over to fuel oil which will be available at reasonable prices with the completion of three refining plants now under construction in the field.

Five Oil Lines

Four companies have laid oil gathering line systems in the field and a fifth is now completing another short line into the Dundee producing sector of Laketon Township.

The Dixie Pipe Line Co. has the only complete gathering line system in the field maintaining two separate units, one for the upper and lower Traverse crude, which is shipped to the Zilwaukee refinery of the Standard Oil Co. of Indiana near Saginaw by rail and another for Dundee crude which since May 19 has been shipped by tanker to Whiting, Ind., refineries of the parent company.

The company has an investment in the field of about $250,000 including 4,600 bbls. of storage in three small tanks for Traverse crude, and a 51-car loading rack on the Pere Marquette Railroad line north of Muskegon. The Standard of Indiana erected an 80,000-bbl. storage tank for Dundee crude above the loading rack and the system included an 8-inch line from this tank to a dock on Muskegon Lake where the Standard of Indiana tanker "Panoil" formerly in Pan American service is loaded.

It is estimated that about 8,000 bbls. of Dundee crude and all of the Traverse crude is being run daily from the field by the Dixie Pipe Line Co. The Panoil makes a round trip between the Muskegon Harbor and Indiana Harbor, the port for Whiting, every 44 hours.

The Simrall Pipe Line Corp. maintains the second largest gathering line system in the field running crude purchased by the W. F. Simrall Co., of Cincinnati, from the Muskegon Oil Corp. and four associated producers, and by the Shell Petroleum Corp. from other producers in the field.

The line represents a total investment of about $150,000 including two 10,000-bbl. storage tanks. A third tank with a capacity of 37,500 bbls. is now under construction near the Dixie and Standard of Indiana storage tank farm in Muskegon Township and a fourth of the same size is contemplated if necessary.

The Simrall corporation is said to be running about 5,000 bbls. a day of Dundee crude which is being shipped by tug and barge to the former Lemont Refining Co. plant at Lemont, Ill. That plant is now owned by the Globe Oil & Refining Co., of Blackwell, Okla.; C. G. Woodruff, former vice president of the Shell Petroleum Corp. and W. F. Simrall.

The barge Altamaha with a capacity of 15,000 bbls. of crude oil is making two to three trips a week between Muskegon and Lemont, Ill. Two new barges with a capacity of 12,000 and 8,000 respectively will replace the Altamaha and each will make between two and three trips weekly boosting the total amount of crude that can be moved from the field daily to about 8,000 bbls. The plant at Lemont is being enlarged to handle the crude.

Westlund & Whitehead, Inc. and the Michigan Central Refining Co. have a joint pipe line which it is estimated is loading about 4,000 bbls. a day and will increase immediately to more than 5,000 bbls. a day for shipment by rail. The Northland Oil Co., of Chicago, is purchasing the crude and billing it to the Paragon Refining Co. at Toledo, Ohio, and other refineries. These two companies have an investment of more than $50,000 in their pipe line system and loading dock.

The Independent Pipe Line Co. has a similar investment in the fourth operating line and is running about 2,000 bbls. a day of Dundee crude oil for the Wellman Oil Co., of Grand Rapids. Most of the crude is being shipped to Henry H. Cross at Joliett, Ill., by rail.

Muskegon Crude Prices

The Standard of Indiana is paying $1.25 for Dundee crude after several increases from 50 cents to the present price. The Shell Petroleum Corp. is paying the same under contract or 20 cents less per barrel than the Mid-Continent scale for 36 gravity. Westlund & Whitehead, Inc. have paid 95 cents per barrel for some flush production and are under contract to pay $1.25 for all other Dundee crude. The Wellman Oil Co. is paying 95 cents per barrel, or 35 cents under the boat price of Shell and Standard of Indiana. The Muskegon Oil Corp. and associated producers are receiving Mid-Continent gravity scale less 15 cents pipe line charges, or $1.40 for 38 gravity, the average of Muskegon Dundee crude.

Three Refineries Building

Three refineries are now under construction in the field. The Muskegon Refiners, Inc. moved a 500-bbl. plant here from Lexington, Ky., and will soon have it in operation. It is located on the Pere Marquette Railroad line at M-20 near the Standard and Dixie storage tanks.

The Michigan Central Refining Co. has a 3,500-bbl. retort and bubble tower plant well under way a short distance north of M-20 on the Pere Marquette and will run a minimum of 2,000 bbls. a day of Dundee crude from producing leases of the Swastika Oil & Gas Co.

The Old Dutch Refining Co. is erecting a 3,000-bbl. plant east of the Muskegon city limits on the Grand Trunk Railway line and will have an output consisting largely of naphthas for which a market already has been established.

Proration of the field is being planned by the Michigan department of conservation which has recently employed Floyd R. Frye, former production superintendent of the Empire Oil & Gas Co., of Bartlesville, Okla., as supervisor of oil and gas conservation. He will have charge of the Mount Pleasant Field and any other new pools as well. He will work in conjunction with the Michigan public Utilities Commission which has jurisdiction of oil and gas pipe lines under the new Michigan oil laws enacted by the last legislature.

Muskegon Field Outlined

With the Muskegon Field practically outlined so far as the Traverse and Dundee formations are concerned operators are looking to wildcat drilling wells and deeper formations in the proven field for future drilling programs here. The Johnson Oil Refining Co. has just started the first deep test to be drilled to a maximum of at least 3,500 feet and possibly more on the northwest edge of production

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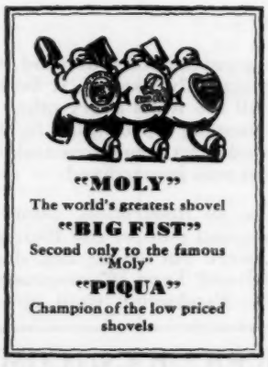

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A Lesson in Gas Lift from Cat Canyon

More like tar than oil.

A portion of Cat Canyon field and, at the right, one of the several Ingersoll-Rand compressor installations.

It is one thing to pump average oil. It is "something else again" to pump oil in the Cat Canyon field of California. For there the oil is almost like tar, so heavy it will sink in water. Pour a little of it on the ground and tomorrow you can roll it up like a carpet. That is fact and not exaggeration. The gravity of Cat Canyon oil is only 9°.

A barrel of Cat Canyon oil shrinks to one-third of a barrel a day and a half after it comes from the ground. It takes that long for the gas to escape, an unusual period.

Pumping Cat Canyon oil was a big problem from every angle and, at the time, a seemingly insurmountable one. Oil well pumps of almost every kind were tried. None could handle the situation profitably. Production averaged from 50 to 100 barrels per well per day. The rods could hardly force their way through the heavy, clinging oil. The great quantity of sand made the pumps practically useless, it being necessary to pull the wells every other day. Instead of showing a profit, the field was being operated at an actual loss and the entire investment was jeopardized.

Then, like an inspiration, came the Gas Lift. Rods and pumps, and their grief and troubles, were put aside. Big, dependable Ingersoll-Rand Type 10 compressors were moved in. Production went up—from 50 and 100 barrels per well per day, to 300 and 500 per well per day.

After the oil is lifted, it is flowed by gravity ditches to central sumps formed by damming the nearby canyons. There, the sand is allowed to settle. Then the oil is mixed with "tops" to raise its gravity and give it sufficient fluidity to meet pipe line requirements. Cat Canyon production is marketed as road and fuel oil.

Although there are four companies operating at Cat Canyon, the compressor equipment is one hundred per cent Ingersoll-Rand.

Only by the Gas Lift Method of production could the tremendous investment of these companies be salvaged and put on a profitable basis. No other method of pumping could have solved the problem of Cat Canyon.

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Ingersoll-Rand

in Laketon Township. They are deepening a well which was dry in the Traverse and Dundee formations. They hope to strike the Niagara formation, a producer of gas and oil in Canada, before 3,500 feet.

Several other deep tests also are projected both in Muskegon and in Laketon Township. A number of wells have been started with 14 or 16-inch drive pipe to allow deepening in the future.

Wildcat Disappointments

Western Michigan wildcat wells in and near Muskegon County have been disappointing so far with 13 dry and abandoned holes mostly drilled to the Dundee formation in Muskegon County and a like number of dusters plugged and abandoned in the surrounding counties of Oceana, Newaygo, Kent and Ottawa.

The only well in any of these close-in areas which has made any production worth considering is the Melrose Oil & Gas Co.'s No. 1 on the Woodward and Hatch lease, SE SE, Section 5-12-12, Brooks Township, Newaygo County. At 2,415 feet this well came in making an estimated initial flow of 500 bbls. of oil and several million feet of gas a day in the upper Traverse pay sands. Within five hours it went to salt water. It was dry in the Dundee when deepened and plugged back to pump the upper Traverse. It has been pumping about 10 bbls. of oil and 1,500 bbls. a day of water, but recently flowed 100 bbls. in two hours encouraging the contractors, Frank H. Stover & Son, to continue testing it on the pump.

A survey of the status of wildcat drilling in Muskegon County and in the other four surrounding counties combined as of July 1 is as follows:

Nature—	Muskegon	Four counties	Total
Oil wells	0	1	1
Completed tests	1	9	10
Dry holes	12	13	26
Uncompleted	2	1	3
Drilling	2	13	15
Spudding	0	1	1
Rigging	0	1	1
Locations	2	1	3
Shut down	2	5	7
Total	22	45	67

Mount Pleasant Gives Great Promise

The coming field in Michigan today is the Mount Pleasant Field of Isabella and Midland Counties in the central part of the State. This field has a total of 18 producing oil wells, all but one in the Dundee formation and that one in the upper Traverse pay sands. Daily production of the field is about 3,000 bbls. of 44 to 46 gravity "sweet" oil.

The Dundee formation is encountered at 3,500-3,600 feet and has a thickness of 40 or 50 feet with no bottom water for 70 feet below the first pay sands. The present proven field is about 3½ miles east and west and 2½ miles north and south with possible limits of 4½ miles east and west in the Dundee pay sands and undetermined limits north and south.

Only four holes have been dry in the Dundee formation, three drilled by the Pure Oil Co. in Midland County and one by an independent syndicate in Isabella County. The last one may be a small producer in the upper Traverse pay sands to which it is being plugged back and will be shot.

The field was opened in the spring of 1928 by the Pure Oil Co., which holds a majority of the acreage and is now drilling 25 of the 35 wells. The first wells were comparatively small producers in the Dundee pay sands making 40 to 200 bbls. a day initial. These wells, however, are holding up remarkably well and indications are that the field will have a much longer life than the Muskegon Field due to the depth and thickness of the pay sands.

The Pure Oil Co. has been purchasing all of the oil at prices varying with the Mid-Continent gravity scale and now at a posted price of $1.70 per barrel. The oil is run through the Pure company's lines to Mount Pleasant, a distance of about 8 miles west of the field, and shipped from there by rail to Bay City and thence by boat to the British-American refinery at Sarnia, Ontario.

The company is now considering laying a 6-inch line to Bay City and shipping from that Lake Huron port by boat as before. The line would be about 25 or 30 miles long.

The East Ohio Gas Co. has started construction of a siding and loading rack at Mount Pleasant and will lay a line to the field immediately to handle its own production and that of other independent operators in Isabella County.

Gas in Niagara Lime

In the fall of 1928 the Logan Oil Co. brought in two Niagara limestone gassers with an open flow capacity of about 750,000 feet a day each. The two gas wells were the W. K. Young Brothers' No. 1, SE SW, Section 9-17n-15w, Logan Township, Mason County, and the No. 2 on the G. H. Young lease, SW SE, Section 9-17-15. The first well got the gas at 3,301 feet and the second at 3,312 feet.

Taggart and Welsh, now operating as the Peerless Oil Co., took over the interests of the Logan Oil Co. and have since completed two upper Traverse oil producers making less than 100 bbls. a day, respectively, in pay sands encountered at about 1,900 feet. The two oil wells are located in Section 10-17-15, also Logan Township, on the L. N. Lake and Harry A. Barnett properties, NW SE and NE SE, Section 10-17-15, respectively.

The Lake well was the first to come in making 92 bbls. initial at 1,908 feet. No information on any of the wells has been available since completion of the first oil producer. Oil has been hauled out by truck and present production of the wells is unknown.

One dry hole has been completed, plugged and abandoned on the Fred Campbell lease, NW NW, Section 16-17-15, Logan Township, and two wells are reported to be drilling on the W. O. Lake, NW SW, Section 16-17-15, and the H. Barnett, NE SW, Section 10-17-15.

About half a dozen or more wildcat wells are being drilled in Van Buren, Cass, Berrien and Allegany Counties in the southwestern part of the State with prospects of production in the Trenton or other formations.

Structure test drilling programs are under way in Kalkaska and Roscommon Counties toward the northern part of the lower peninsula and in the central part of the "mitten," in Allegany and in Mason and Lake Counties. The Pure Oil Co., which has about 1,000,000 acres under lease throughout the State including vast areas of state lands, is using the core test method for determining the location of possible structures in these areas and the Muskegon Oil Corp. and Dixie Oil Co. are working with the Grayling Development Co. on the tests in Kalkaska and Roscommon Counties.

Other wildcats are being drilled in the central part of the State in Gratiot, Montcalm and Osceola Counties and recently a number of wildcats have been started about the Mount Pleasant Field in Isabella and Midland Counties.

In general, Michigan is underlain with rock formations which form a great platter with the sides cropping out in Lake Michigan on the west and Ontario on the east, the Indiana-Michigan line on the south and the Straits of Mackinaw on the north.

Converse folds forming traps for oil and gas are believed to exist at irregular intervals entirely across the State. It is the oil men's task to find those structures and drill wildcat tests into them to determine the oil future of Michigan.

Michigan

There were a total of 248 completions reported in the Michigan fields for the first half of 1929 and distributed by months as follows:

Month—	Comp.	Prod.	Dry	Gas	Oil wells
January	37	6,630	15	7	15
February	35	5,912	14	1	20
March	31	11,935	8	3	20
April	49	17,087	8	2	39
May	45	20,425	8	3	34
June	51	17,878	10	1	40
First half 1929	248	79,867	63	17	168
First half 1928	35	2,126	11	2	21
Difference	213	77,741	52	15	147

The above wells distributed by counties for the first half of 1928, as follows:

County—	Comp.	Prod.	Dry	Gas	Oil wells
Muskegon	213	76,227	41	15	157
Isabella	8	2,193	0	0	8

(Continued on Next Page)

Hot Summer Air Demands Positive Ventilators

REPLACING the dry, sultry air inside your buildings with clean fresh air during the hot summer months is a tough job—too much of a job, in fact, for an ordinary ventilator because it is not designed to meet severe conditions.

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Midland	6	1,355	4	0	2
Mason	2	92	0	1	1
St. Clair	4	0	4	0	0
Manistee	1	0	1	0	0
Kent	1	0	1	0	0
Oceana	4	0	4	0	0
Ottawa	2	0	2	0	0
Newaygo	3	0	2	1	0
Livingstone	2	0	2	0	0
Van Buren	1	0	1	0	0
Montcalm	1	0	1	0	0
Total	248	79,867	63	17	168

NOTABLE HALF YEAR IN KANSAS FIELDS

(Continued from Page 160)

ting their production from the 3,000-foot horizon. In the area south of Wellington another test was getting started the last of June, to be drilled by the Houston Oil Co. in the center of a 2,000-acre block of leases recently assembled. It will be No. 1 Mercer, C NW, Section 36-32-1w, Sumner County.

Drilling Near Nebraska Line

In Smith County, only a short distance from the Nebraska state line, the Phillips Petroleum Co. was getting ready to spud in a wildcat test at the close of June. It is known as No. 1 Clydesdale, SE cor. Section 23-5-14w, and is on a block of 20,000 acres that has been cored drilled. The test marks a new era in oil exploration in that part of the State, which up to this time has had very few oil tests.

McPherson County

McPherson County, which adjoins Marion County on the west, has given substantial indication of being an important oil producing region. Oil was discovered in the county by the Mid-Kansas Oil & Gas Co. in its No. 1, CEL SW, Section 31-18-2w, on August 15, 1928. The well started at 215 bbls. a day from sand at 2,967-79 feet. Previous to this the McPherson Oil & Gas Co. had got an 18,000,000 foot gasser in a test, C SE NE, Section 31-18-2w, which well was completed in March, 1928, in chat at 2,915-53 feet. The discovery of oil led to a large leasing and core drilling campaign in the county. Ted Washabaugh and others started a test on the Voshel farm, NE cor. Section 9-21-3w, and in May it found a good showing of oil at 3,301-04 feet. The well flowed by heads into the slush pit and continued to do so after the casing collapsed and while the crew was engaged in fishing operations. The fishing job was still on at the close of June. The Shell Petroleum Corp. at the close of June opened a new productive spot in Section 1-20-2w. The well is rated as high as 5,000 bbls. potential production, and has produced as high as 1,400 bbls. in 24 hours from pay at 2,935-66 feet. It was awaiting the completion of pipe line to a loading rack several miles away, and its production was curtailed in consequence. This well led to the Prairie Pipe Line Co. ordering a survey from the end of its line in Marion County to the new fields in McPherson.

Dickinson County

Two wildcat locations were made in Dickinson County, and the tests are expected to be started in the near future. One of the locations was made by Cress & Hancke in the NE cor. Section 12-15-2 on a block of 14,000 acres assembled on good geological data for the purpose of testing for oil and gas. The other location was made by Haitt & Durham in Section 17-16-2 on a large block of leases. Dickinson was the scene of a wildcat drilling campaign about 10 years ago. It resulted only in failures.

A wildcat well in Ness County that found oil early in May is the Barnsdall Oil Co.'s No. 1 Lauk, C SW, Section 35-18-21w, which created considerable excitement when it struck its first showing of oil at 4,177-80 feet. The hole filled up 1,000 feet with fluid, after the crew bailed for some time and later found 200 feet of water in the hole. They estimated it had produced 24 bbls. of oil the first day. The owners tested the horizon for several days, and then deepened it to 4,223-29 feet, where it was swabbing 100 bbls. of oil and 100 bbls. of water. It was shut down for some time, but is now drilling deeper at 4,340 feet the last of June.

Big Gasser in Edwards County

In the middle of May in Edwards County the British-American Oil Co. and Valerius Oil Co.'s No. 1 McCarty, NE NW, Section 31-25-17w, had 5,000,000 feet of gas at 4,535-45 feet, and a 10 or 15-bbl. show of oil. After being deepened to 4,536 feet, it was making 8,000,000 feet of gas. The well was finally completed as a gas well at a total depth of 4,575 feet. The producing horizon has not been definitely identified. It may be a chat or a sand in the top of the lime. The crew was unable to get a sample of the cuttings. The acreage was assembled by a Tulsa geologist, and the test was located on a large block of acreage after considerable geological work had been completed in the area. About 10 miles west of this test the Amerada Petroleum Corp. and Wilcox Oil & Gas Co. completed a dry hole in the Wilcox sand in Section 32-25-19w, shortly following the completion of the above gas well.

Harvey in for Drilling Campaign

Harvey County joins Sedgwick County on the north and it was natural that the campaign to extend pools in Sedgwick should extend into that county. Many operators expect Harvey County to get a big drilling campaign this year, as practically every acre in the county is under an oil and gas lease at the close of the first six months. Large gas wells have been completed within the county, and from indications more in the way of development work will take place. In April the Shell Petroleum Corp.'s No. 1 Haury, SW NE SW, Section 11-23-2w, Harvey County, blew in making 25,000,000 feet of gas while the cement plug was being drilled out at a total depth of 3,014 feet. It was the largest gas well completed in the county to date. It was later found to be spraying a small quantity of oil. The oil and gas are being separated and the gas is being sold for domestic purposes in the city of Hutchinson.

Ellis a Good Prospect

Ellis County has been a good prospect for the wildcatters for several years, and two wells of the Phillips Petroleum Co were completed in the county last year. Another wildcat producer was found in the month of April, 1929, on the same block several miles distant from the two other wells. The Phillips Petroleum Co. has many thousands of acres of leases in the county, and it recently opened another oil producing territory in the northwest part of the county, the first oil producer west of Hays, the county seat. The Kansas State Teachers College, at Hays, will open for oil and gas lease bids 3,000 acres of land it owns 3 miles south of that town. This play will give other companies a chance to get into the area which has heretofore been almost exclusively held by the Phillips Petroleum Co. The same company's No. 1 Scheidler, NW cor. Section 20-12-17w, Ellis County, was completed in April in the Oswald horizon at 3,385 feet, where it swabbed an average of 85 bbls. a day for 3 days, and was then shut in for pipe line connections. The new wildcat opened up west of Hays is No. 1 Johnson, SW cor. NE, Section 9-13-19w. It found production in the Gorham at 3,593-95 feet.

In the older areas of Greenwood County the old producing pools are being revived. New locations and extensions to the pools are being drilled. Many of the new extension wells are located in areas thought to be defined years ago. With the exception of Sedgwick County some areas in Greenwood County are more active than any of the other oil producing districts in the State. The Seely Pool was extended by the completion of the Empire Oil & Gas Co.'s No. 1 Patterson, NW NE SW, Section 36-23-11, northeast of Hamilton. The well started slopping over and after a shot made 300 bbls. a day from the Bartlesville sand at 1,765-1,835 feet. It was considered extraordinary for a well to make that amount of oil in an old pool that has produced millions of barrels in the past. Ten other tests recently completed in the

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General Offices: Dallas, Texas

territory around the above well have made steady producers and caused more new activity.

Harper County has been exploited by the core drill and other geophysical instruments. A deep dry hole was completed in May by the Amerada Petroleum Corp. in the C SE SE, Section 24-34-6w. Wilcox sand was found at 5,368-75 feet. The hole was drilled to 5,452 feet, where it was abandoned.

The finding of oil in Trego County was one of the results of wildcatting in western counties. The well swabbed 280 bbls. a day for several days before being shut in for pipe line connections. It was drilled by the Central Commercial Oil Co. of Tulsa, Okla., and is No. 1 King, NE SW NE, Section 20-13-21w. It had pay sand at 3,960-72 feet, and a great many operators are calling it the Gorham sand. It is too far from any other production to make correlations. The well is the most westerly oil producer in the State. The location was on a block of 9,500 acres assembled by the company in 1928. The oil tests 35 degree gravity.

Showing in Phillips County

In Phillips County in the northern part of the State, a small showing of oil was reported from the Watsonia Oil Co.'s No. 1 Merklin, in Section 21-3-19w. The showing in this test was encountered at 3,535 feet, but it was abandoned at 4,071 feet. This test was drilled close to the state line of Nebraska.

New Pool in Russell County

Russell County has been in the producing column for several years with production in the northwest part of the county. In the middle of June the Prairie Oil & Gas Co. and Tom Slick Oil Co.'s No. 1 Sellans, SW NE, Section 36-15-13w, Russell County, found Gorham sand at 3,352-55 feet, where the hole filled up 2,800 feet with oil. After a delay of a few days, waiting to erect tankage, the well was swabbed and a production test made. It produced 250 bbls. of oil for several days and was completed. The test was a rank wildcat in the southern part of the county, and opened up additional drilling in the area between the production in Rice County and the original pool in the northern part of Russell County.

Significant Wells

In the following list of significant wells completed in Kansas in the first half of the year, the production given represents first 24 hours' output.

T. B. Slick and others' No. 1 Smyser, NE SW SE, Section 36-25-1w, Sedgwick County; 480 bbls. in the regular pay. Extends Valley Center Pool.

Barnsdall Oil Co.'s No. 1 Samuels, NE NW, Section 24-25-1e, Sedgwick County, 170 bbls. New wildcat well 6 miles east of Valley Center Pool.

Empire Oil & Refining Co.'s No. 75 Koogler, SW SE NE, Section 19-26-5, Butler County, 210 bbls. Total depth 2,605 feet. The seventy-fifth producer on the lease.

Gypsy Oil Co.'s No. 1 Williams, 16-35-3w, Sumner County, 1,750 bbls. Wilcox sand at 4,768-82 feet. Opened a pool near Oklahoma and Kansas State line.

Phillips Petroleum Corp. No. 1 Schmedler, NW cor. Section 20-12-17w, Ellis County, 150 bbls. at 3,395 feet. Second well on the same block in that county.

Shell Petroleum Corp.'s No. 1 Lygrisse, SE NE, Section 15-26-2, Sedgwick County, 2,200 bbls., total depth 3,166 feet. Opened pool 8 miles from other production.

Dickey-Shell Petroleum Corp.'s No. 1 Robbins, NW SW, Section 21-28-1, Sedgwick County, 1,070 bbls., total depth 3,087 feet. Opened pool 6 miles southeast of Wichita.

British-American Oil Co.'s No. 1 McCarty, NE NW, Section 31-25-17w, Edwards County, 8,000,000 feet of gas, total depth 4,545 feet. The first producing well in the county.

Central Commercial Oil Co.'s No. 1 King, NE SW NE, Section 20-13-21w, Trego County, 280 bbls. from a total depth of 3,960 feet. The most westerly oil producer in the State.

Prairie Oil & Gas Co.'s No. 1 Sellans, SW NE, Section 36-15-13w, Russell County, 150 bbls. from a total depth of 3,355 feet. New wildcat well in the southern part of the county.

KANSAS

Completions by Counties, First Six Months, 1929

County	Comp.	Prod.	Dry	Gas
Butler	52	4,750	21	0
Cowley	55	3,453	33	14
Elk	15	407	7	1
Greenwood	63	5,437	16	1
Russell	18	1,130	4	0
Sumner	17	4,050	8	1
Ellis	14	390	10	0
McPherson	10	510	8	1
Coffey	10	0	7	3
Marion	12	1,225	4	1
Morris	2	0	1	1
Woodson	4	200	2	0
Anderson	7	80	2	0
Chautauqua	25	395	9	4
Montgomery	25	232	9	4
Sedgwick	108	55,667	39	4
Rooks	4	0	4	0
Mitchell	1	0	1	0
Linn	1	0	1	0
Labette	7	23	1	0
Bourbon	2	14	0	0
Neosho	3	20	0	3
Allen	1	0	0	1
Cloud	1	0	1	0
Harvey	7	0	6	1
Miami	1	0	1	0
Barber	2	0	1	1
Franklin	1	0	1	0
Jefferson	1	0	1	0
Nemaha	1	0	1	0
Osage	4	0	4	0
Pottawatomie	1	0	1	0
Wabaunsee	2	0	2	0
Wilson	2	0	1	1
Rush	2	0	2	0
Barton	1	0	1	0
Stevens	1	0	0	1
Phillips	1	0	1	0
Saline	1	0	1	0
Sherman	1	0	1	0
Harper	1	0	1	0
Edwards	1	0	1	0
Total	489	78,523	206	38

Summary by Months

Month	Comp.	Prod.	Dry	Gas
January	50	2,977	19	7
February	101	8,876	40	10
March	31	4,642	14	2
April	159	28,556	69	11
May	73	14,216	33	3
June	75	19,256	31	5
Total	489	78,523	206	38
First half 1928	624	68,531	225	59
Difference	135	9,992	19	21
First half 1927	770	62,726	331	40
First half 1926	1,209	38,401	390	54
First half 1925	864	107,407	286	54

REMARKABLE RECORD IS MADE BY STEEL

(Continued from Page 181)

the average seasonal decrease in the last five years.

While the agricultural implement industry did rather well in the first half of 1928, it did better still in the second half, and it was exceptionally active in the first half of 1929. Crop realization prospects are not such as to insure a full continuance of the rate in the second half of this year.

Line Pipe Activity

Exceptional activity in line pipe began about the middle of 1928, two large orders being placed late in June of that year. Large orders followed at irregular intervals.

The year 1929 opened with a large amount of line pipe business on the books of the A. O. Smith Corp., Milwaukee, making electrically welded pipe, a new product, as manufacture in quanity had only begun in September, 1927. Smith was reported to have on books about 1,600 miles, substantially all in large diameter pipe averaging close to 20-inch. The fire welded pipe mills had a moderate amount of line pipe business on books, and seamless tube mills were nearing completion of some large orders for oil lines.

Among line pipe orders placed in the half year were:

Jannuary. Pacific Gas & Electric Co., 150 miles 20-inch, 50 miles 16-inch; Smith. Prairie Pipe Line Co., oil line Panova, Okla., to Griffith, Ind., 200 miles 12-inch, 300 miles 8-inch; National Tube and Central Tube.

April. Monroe, La., to St. Louis, Mo., gas line, 325 miles 22-inch, Smith; 204 miles 22-inch, National Tube; 25 miles 22-inch, Spang. Also an oil line, 200 miles 10-inch.

May. Monroe, La., through Birmingham, Ala., to Atlanta, Ga., gas, roughly

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Use Ferodo Linings with confidence in any of the many services where you *must* have reliable braking control.

The heaviest loads and the deepest drops . . . where oil and acids, or alkalis and grits, prevail . . . under the heaviest pressures and high heats . . . these are the services in which Ferodo excels.

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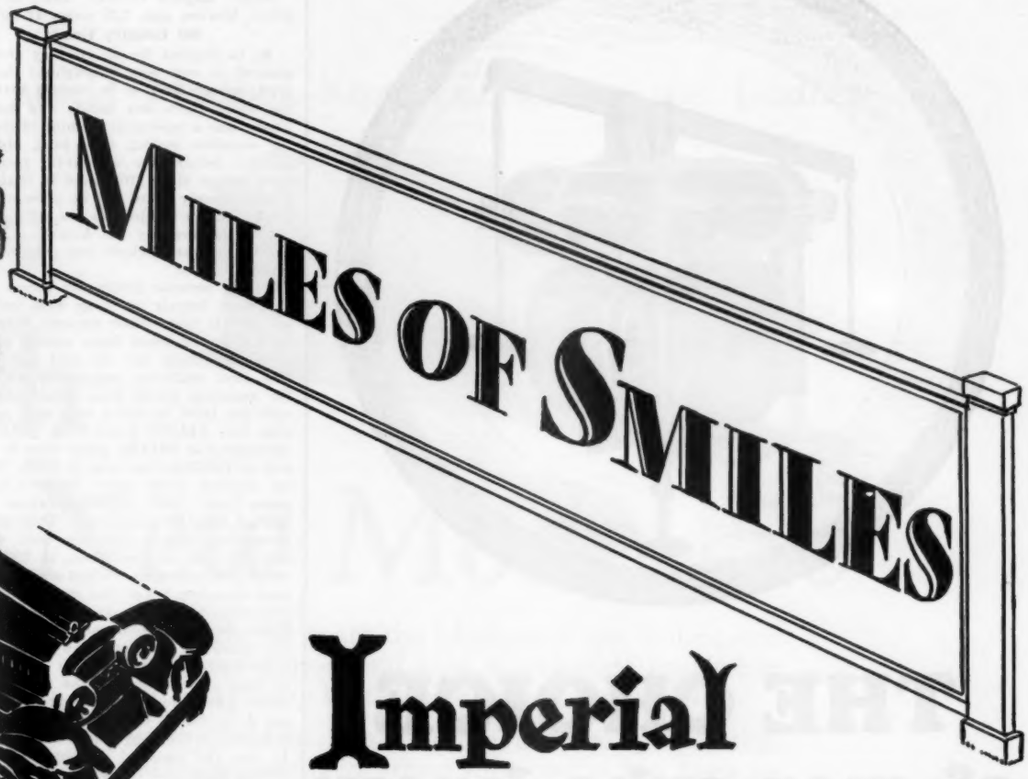

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In every quality of performance both gasolines are supreme. They are easy starting at below zero temperatures, have dependable acceleration, extra power for any service requirement and possess full volatility at operating temperatures.

A Premium Automotive Fuel

SPECIFICATIONS

Gravity	54-56 A.P.I.
Color	Water White
Odor	Sweet
Doctor Test	Negative
Corrosion	Good
Sulphur	Under 0.1%
Gum Test	O.K.
Benzol Equivalent	50%
Distillation	
I.P. Under	104° F
10%	167° F
50%	275° F
90%	365° F
E.P. Under	400° F

A Premium Aviation Fuel

SPECIFICATIONS

Gravity	66-70 A.P.I.
Color	Water White
Odor	Sweet
Doctor Test	Negative
Corrosion	Good
Sulphur	Under 0.1%
Gum Test	O.K.
Benzol Equivalent	30%
Distillation	
I.P. Under	95-104° F
10%	140° F
50%	221° F
90%	311° F
E.P. Under	360° F

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Imperial Refining Co. San Angelo Refining Co.
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DAVIS VALVE SPECIALTIES

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500 miles 20-inch, chiefly National Tube and Smith. Monroe, La., to Shreveport, La., 125 miles 20-inch, Youngstown Sheet & Tube and Smith.

June. Zapata County, Tex., to Monterey, Mexico, gas, 125 miles 12-inch.

Oil Country Goods

As to demand for oil country goods in general, it was poor throughout the half year, particularly so in welded material, for which there was hardly any demand. There was a moderate amount of demand for seamless casing, drill pipe, etc. In general, demand for oil country goods has been lighter since 1926 than in that year. Unfortunately there are no adequate statistics on the subject as the official statistics, gathered by the American Iron & Steel Institute, include line pipe with oil country goods.

Partly because drilling in recent years has been largely in deep well territory and partly from other reasons, there has been a strong trend from welded pipe to seamless tubing for oil and gas wells. The first statistics separating oil country seamless goods from other seamless were for 1926, in which year such production was 446,078 gross tons, production increasing to 561,002 gross tons in 1927, and to 725,532 gross tons in 1928. Welded oil country goods ran: 1926, 1,328,294 gross tons; 1927, 1,199,936 gross tons; 1928, 1,108,446 gross tons. Thus in 1926 proportions were 74.9 per cent welded and 25.1 per cent seamless, in 1928 they were 50.4 per cent welded and 39.6 per cent seamless. Yet the welded had the advantage for a large amount of line pipe. There has been some seamless used for line pipe, but this far not a great deal.

By an inadvertance which will probably seem strange outside the steel making trade, the tubular goods production of the A. O. Smith Corp., Milwaukee, is not included in the pipe production statistics. In use, the material is similar to fire welded pipe, and in sales it is in competition with it, in fact, in very successful competition. There was a report that in the first seven months of 1928 Smith produced 180,000 tons—presumably net tons—which would make over 300,000 tons per annum. Early in 1929 capacity was approximately doubled. Last April there was a report that about 75,000 net tons of plates were required for the Milwaukee pipe production in the month.

Production of steel tubular goods is in a state of flux. The large increase in seamless recently has been mentioned, also the sudden vogue of large diameter electrically welded pipe made at one point. In view of the swing from welded to seamless, the National Tube Co. began early in the year rebuilding its large McKeesport works, near Pittsburgh, adding a large seamless department and eliminating some of the welding capacity. Republic Iron & Steel Co. has recently put on the market electrically welded pipe up to 7-inch, and by next spring will be able to produce up to 21-inch. Youngstown Sheet & Tube Co. and National Tube Co. have been experimenting for a long time on electrically welded pipe and doubtless will eventually be in the market with such product.

OIL SECURITIES IN FIRST HALF YEAR

(Continued from Page 181)

ment to liquidate their unused properties, and it is expected that further capital decreases and liquidation will be witnessed on the part of some lines whose sphere of usefulness as links in the system of petroleum transportation appears to have about come to an end.

New Financing

The comparative stability of the petroleum industry, from the financial standpoint, is illustrated by the fact that during the first six months only three bond issues, aggregating but $34,000,000, were floated on the New York market. These issues included one of $25,000,000 of 6 per cent bonds, due 1944, by Richfield Oil Co. of California, priced at 99 to yield 6.10 per cent; $7,000,000 by Warner-Quinlan Co., 6 per cent, due 1939, issued at 98½, to yield 6.20 per cent; and $2,000,000 by H. F. Wilcox Oil & Gas Co., 6 per cent, due 1930-1939, to yield 6 to 6.20 per cent.

In the stock field, the principal new financing was an issue of $40,000,000 of 5½ per cent cumulative convertible preferred stock at $98 to $100 par share, the proceeds of this issue to be used in reimbursing the corporation for expenditures in the acquisition of the New Orleans Refining Co., New England Oil Refining Co., and other assets now owned by Shell Eastern Petroleum Products, Inc., and to provide for further expansion of marketing facilities.

STANDARD OIL STOCKS ON NEW YORK CURB

1929 High	1929 Low	Stock—	Close week ending Jan. 5	Close week ending June 29
18¾	14⅛	Anglo Am. Oil	15¼	15
2⅛	1⅛	Atlantic Lobos	2⅛	2
46⅛	37⅝	Borne Scrymser	46	37⅝
77⅛	74¼	Buckeye P. L.	67	69⅝
170¼	140⅛	Chesebrough Mfg.	142	168
29	17¼	Continental Oil	19⅝	20⅝
75⅝	60	Cumberland P. L.	...	70
70¼	59¼	Eureka P. L.	65½	....
6⅝	5⅜	Galena Signal Oil	6	5
124⅝	89⅝	Humble O. & R.	100⅛	115
340⅛	290	Illinois P. L.	290	308⅝
103⅝	81¼	Indiana P. L.	85	97
65⅛	45⅛	International Pet.	55	46¼
25⅞	21⅝	National Transit	22⅝	23
63	52⅜	Northern P. L.	62	54⅜
75⅜	64⅛	Ohio Oil	73	71⅜
44½	23⅛	Penn Mex Fuel	39	26
21⅝	13	Southern P. L.	15	20⅝
63	54	Standard Oil Ind.	*90	55⅜
22⅛	18	Standard Oil Kas.	20⅜	21⅜
45⅛	35⅛	Standard Oil Ky.	*162	37⅝
50¼	45⅛	Standard Oil Neb.	48⅜	47⅜
129	110¼	Standard Oil Ohio	119	121⅛
133⅜	105⅛	Vacuum Oil	106⅜	116⅜

*Old stock.

PRICE MOVEMENT IN OIL SHARES ON NEW YORK STOCK EXCHANGE

1929 High	1929 Low	Stock—	Close week ending Jan. 5	Close week ending June 29
42⅝	22½	Amerada Corp.	40¾	24⅝
64¾	43⅛	Amer. Republics	61⅞	47⅞
47¼	40½	Associated Oil	47	44¼
76⅝	53⅛	Atlantic Refining	64	72⅜
49⅛	38⅛	Barnsdall Corp.	45⅛	41⅜
87⅝	61	General Asphalt	75⅜	82
109	70⅛	Houston Oil	100	80
39⅜	30	Independent O. & G.	33⅜	34⅜
52⅝	29	Indian Refining	30⅛	44⅜
38⅜	26	Lago Oil & Trans.	32	34⅛
18	12½	La. Oil Refining	17⅜	12½
18½	12	Maracaibo Oil	17	13⅜
47⅛	33⅛	Marland Oil	45	35
69⅜	36¼	Mexican Seaboard	65	53
39⅞	30½	Mid-Cont. Pet.	38⅛	33⅛
5⅛	3½	Middle States	4⅞	3⅜
63	40¼	Pan American	49⅛	53⅛
66⅜	40½	Pan American "B"	49⅞	56⅜
15¼	9½	Panhandle P. & R.	13⅜	9⅜
47	36⅝	Phillips Petroleum	45⅜	37¼
3⅜	2	Pierce Oil Corp.	2⅜	2
5⅞	4¼	Pierce Petroleum	5¼	4⅜
65⅜	55	Prairie O. & G.	61¼	55½
25⅞	18	Producers & Refiners	24	18½
30	23¼	Pure Oil	27¼	26⅜
49⅝	39⅜	Richfield Oil Calif.	47⅜	42
55⅜	49⅞	Royal Dutch, N. Y.	55⅜	53
31⅜	25⅝	Shell Union Oil	29	26⅝
37¼	18⅛	Simms Petroleum	23¼	31
45	35¼	Sinclair Consolidated	42¼	36¼
46½	32⅞	Skelly Oil	36⅝	41
81⅞	64	Standard Oil, Calif.	72¼	72⅝
62⅜	45	Standard Oil, N. J.	54½	57⅞
45⅝	38	Standard Oil, N. Y.	43¼	39⅛
74⅜	57	Sun Oil	67½	65
68⅛	57¼	Texas Corporation	66⅜	62⅜
23⅞	16	Tex. Pac. C. & O.	18⅛	17¼
40	27½	Tide Water Oil	36⅛	35
23⅛	17⅛	Tide Water Asso.	21	19⅝
14¼	9	Transcontinental Oil	11⅝	10⅛
54⅛	46	Union Oil of Calif.	51	47⅝
42⅞	28½	Warner-Quinlan	40	32⅞
38	30¼	White Eagle O. & R.	35⅜	34
29⅜	19½	Wilcox O. & G.	19	20

DEMAND IN THE EAST SHOWED IMPROVEMENT

(Continued from Page 168)

Demand in this division of the market continued active.

An interesting development in kerosene marketing this year has been the more general utilization of oil company-owned gasoline retail stations for kerosene marketing.

Furnace Oils

Volume of business in furnace oils throughout the eastern territory during the first half of 1929 has come up to the expectations of even the most optimistic. With the number of new domestic oil burner installations surpassing all previous records, it was but natural consumption of oil in these heating units should likewise run into record volume. While competition for this business was naturally strong, the low refinery markets for heavy oils enabled marketers to

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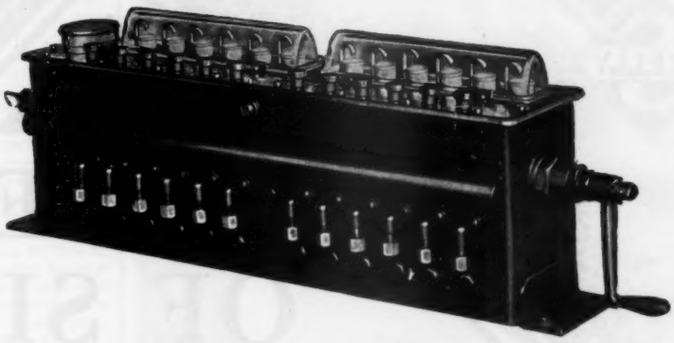

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BRANCH OFFICES
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distribute furnace oil at reasonably low prices and still show a satisfactory return on their season's operations. In one or two instances, marketers booked contracts covering deliveries of furnace oil up to the close of 1930, and the industry in the East will enter the 1930 selling season next month with a considerable gallonage already on the books. Manufacturers of domestic oil heaters have met with notable success in their efforts to design a type of heater that will operate satisfactorily on a lower grade of fuel oil than any hitherto used, and this is expected to make for a further increase in sales of burners, as it lowers still further the operating cost of the heating units.

Aside from the volume on oil for home heating units, which naturally is strictly a seasonal business, marketers in the East have developed an important year 'round market for furnace oil through the large number of oil burner installations in new apartment buildings, hotels and office and public buildings, all of which require burner oil throughout the summer months to take care of their hot water requirements.

Fuel Oil

While the statistical position of the fuel oil market has been far from strong at any time during the first half of the year, prices for bunker "C" at principal East Coast terminals have been well maintained at all times. Leading refiners, by meeting price cuts in 1928, showed their determination to hold their bunker oil volume at all costs, and interests which had previously been inclined to do a little "sharpshooting" under the quotations of the principal sellers in order to poach a little business, have since been content to adhere to the general market basis in most instances.

Bunker "C" fuel oil has been 15 to 25 cents per barrel under 1928 levels during the first six months, holding at $1.05 per barrel in bulk, f.o.b. terminals, during the entire period. During the first quarter, when the statistical position of fuel oil appeared a little brighter, there was some talk regarding a general advance to $1.15, but the sharp increase in domestic crude oil production, together with the continued growth of production in South America, precluded the possibility of any upward movement in prices. Since that time, principal refiners have been content to maintain the market at $1.05 and let well enough alone. A number of the big maritime fuel oil contracts carry over through 1930 and 1931, and because of this, the spot markets have been well stabilized throughout the year thus far. Just what effect continued growth in crude oil production will have upon the fuel oil market is not yet clear, but in most of the large marine contracts the buyer reserves the right to buy his fuel oil elsewhere only in the event that oil is available in the general market at 10 cents per barrel or more under the contract price of $1.05.

While volume of bunker oil business has been holding up well, the outlook for continued expansion of consumption in marine circles is not so favorable. Considerable new ocean tonnage is now being built for Diesel electric drive and while a large part of new construction still specifies steam propulsion, and further increase in bunker oil business is in sight in this direction, conversions of oil burning steamships to Diesel power are tending to offset new construction somewhat.

Industrial consumption of fuel oil is still holding up well, because of the low price of the oil, but total demand is not improving at a rate sufficient to balance the increase in supply. At the close of June, 1929, total stocks of fuel oil held in the United States were some 12,500,000 bbls. in excess of those on hand at the same time last year.

Gas Oil

The first half of the year has been marked by the almost complete disappearance of straightrun gas oil from the eastern market as a commercial proposition. With the further development of cracking, refiners have not been in position to offer straightrun oil, and practically all materal offered on spot has been re-run stock. The spot market has shown but a half cent variation during the first half of the year, spot gas oil fluctuating between 5 and 5½ cents per gallon. However, only one or two of the leading factors have been getting top prices for gas oil, the general market at all times being a quarter to a half cent under the quotation of the principal sellers.

Low grade gas oil has sold exceptionally well thus far in the year, and has been utilized very largely by marketers for deliveries against furnace oil contracts. Refiners have worked up a fairly large business in this direction, and it is expected the fall season will witness further expansion along these lines.

Artificial gas companies have been heavy users of gas oil during the first half of the year, and refiners are carrying a heavy volume of contract business with these interests on their books for the remainder of 1929. While there has been a little talk heard in oil circles regarding the possibility of the construction of a natural gas line to New York City, there has been nothing definite done in this direction as yet. With the further development of huge reserves of natural gas in the southwest, however, it is believed responsible interests are giving consideration to the possibility of such a line.

Refiners in East Coast territory are not carrying large stocks of gas oil, and principal factors profess to see a fairly strong and well stabilized market for this product over the remainder of the year. The more general use of cracking equipment, it is pointed out, is tending to lighten the production of gas oil, and a gradual adjustment of production to consumptive requirements appears in sight.

Diesel Oil

This is one of the few divisions of the refined oil market which has been entirely lacking in grief during the frst half of the year. The market started off the year at $2 per barrel at refineries, and has held at that figure throughout. Shell Eastern, which entered the market as a Diesel oil seller several months ago, has been quoting a price of $2.10 per barrel. Consumption has been steadily expanding, and further increases in volume are in sight for the remainder of the year. A number of large new Diesel and Diesel electric vessels, both passenger and freight, have entered the New York run since the first of the year, and further completions will add to their number by the close of 1929. Refiners have a substantial volume of Diesel oil business booked over the second half of the year, and no disturbance to the price basis is anticipated. Stocks are by no means large, and current production is moving readily into consumption.

An outstanding development in the Diesel oil field during the period was the successful testing of a Diesel aviation motor by the Packard Motor Co. a few months ago. The new type airplane motor functioned perfectly in all respects, and it is indicated commercial production of the Diesel motor for airplanes is a certainty for the near future. Other companies, notably General Motors, have been experimenting with Diesel oil as a fuel for airplane motors, and further developments in this direction are looked for.

In addition, Diesel oil as a fuel for automobile engines looms nearer as a result of successful experiments in this direction. The leading motor bus company in Philadelphia has successfully inaugurated the use of Diesel oil as a fuel for its busses.

Several Diesel burning locomotives are now in use on leading American railroads in an experimental way, and the results of their operation are being closely watched by the oil industry. Preliminary reports indicate the locomotives have not only been functioning satisfactorily, but the railroads operating them have succeeded in effecting marked economies in fuel, operating and maintenance expenses.

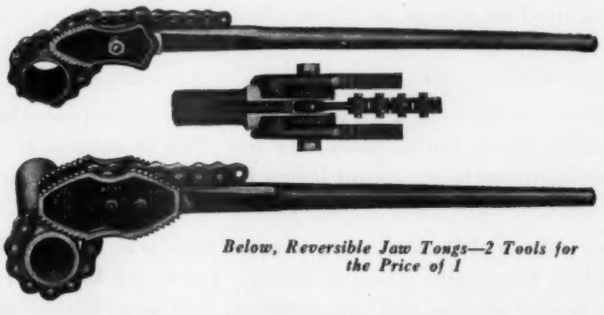
Lubricating Oils

Cylinder stocks experienced a sensational price advance during the first half of the year, quotations reaching the highest levels recorded since the collapse of

Look for the Arm-and-Hammer Mark and the Seal of Proven Strength

When you're picking out Chain Pipe Tongs, there's one Mark that is absolute proof of extra strength—the Arm-and-Hammer Trade Mark stamped in the lead seal which is attached to chains of ARMSTRONG Pipe Tongs. This seal and mark indicate that the chain which carries them has been proof-tested to two-thirds catalog strength (1,200 lb. to 40,000 lb.)

ARMSTRONG Chain Pipe Tongs embody the best features of their type yet are free from the weaknesses which exhaustive tests brought out in other makes. Their improved design gives greater bearing of the jaws on the bar. The bolt is oversize, of hardened steel and will hold jaws solidly in place. Guides prevent chains from jamming or sticking.



Below, Reversible Jaw Tongs—2 Tools for the Price of 1

Handles are drop forged from a high carbon steel which gives both stiffness and spring. On the large tongs an eye is forged in the handle end to facilitate the hooking on of extra power when needed.

The Jaws are drop forged from high carbon steel treated, hardened tempered and tested for toughness. The straight cut teeth hold their sharpness.

Catalog P-10 showing and describing the entire line of ARMSTRONG BROS. (Chicago) Better Pipe Tools will be sent upon request. Unless you have checked over this catalog you cannot know all the improvements that have been recently made in pipe tools. Write for a P-10 today.

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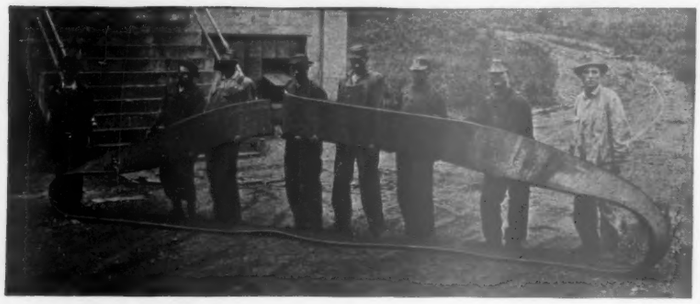
The World's Largest Piece of Brake Lining..

15 inches wide, 1¼ inches thick and 27 feet long, this piece of Rusco Brake Lining is the largest solid woven asbestos brake lining ever made. It is used on a hoist at one of the ore mines of the Sloss-Sheffield Steel & Iron Co. of Birmingham, Ala.



SIX thousand feet into the ground—down grades that at times are 55°—and at speeds of 25 to 30 miles an hour—run the hoist operated ore trains of the Sloss-Sheffield Steel & Iron Co. The cars weigh between 20,000 and 30,000 pounds empty, and when loaded, from 40 to 50 tons.

Because of the steepness of the grade and the enormous weight of the load, the brake lining is constantly subjected to tremendous strain and intense frictional heat. Yet the Rusco Brake Lining used on this installation, after almost a year of service during which time the trains have averaged 90 trips a day, shows no appreciable wear.

On hoists, for oil field work and other industrial purposes, Rusco Industrial Brake Lining gives long and efficient service. It withstands frictional heat without losing its gripping power or giving off offensive fumes, and is impervious to oil and water.

Rusco Industrial Brake Lining is made from selected long fibre, Canadian Chrysotile asbestos, solidly woven on looms of our own special design and construction, and is available in all sizes up to 20 inches in width.

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If you do not know the name of the nearest Rusco supply dealer, write us for complete information. Address Dept. V-14, The Russell Manufacturing Company, Middletown, Conn. In Canada, The Russell Mfg. Co., Ltd., St. Johns, P. Q. Also, Manufacturers of Rusco Belting.

The hoist flywheel on which the world's largest piece of brake lining is used. It is over 44 feet in circumference and operates at a speed of 40 miles an hour.

RUSCO
INDUSTRIAL
BRAKE LINING

the post-war boom in 1920. The advance was based on several factors, principal of which were a curtailment in the production of lower grades for maximum output of bright stocks, and a stronger market for Pennsylvania crude oil, and resultant higher costs to refiners. In addition, domestic demand, particularly for the higher qualities, showed further expansion, due in some measure to the quantity production of the new model Ford cars, which require a high grade lub oil.

A comparison of the prices ruling on cylinder oils as of January 1, April 1 and July 1, this year, follows:

	Cents per gallon		
	Jan. 1	Apr. 1	July 1
600 s. r.	$0.30	$0.32	$0.42
635 s. r.	.31	.35	.44
650 s. r.	.34	.39	.49
600 Pa. flash	.38	.43	.52
630 Pa. flash	.42	.48	.57
600 Warren "E"	.35	.35½	.44
600 Oil City "E"	.34	.34½	.44
Bright stock, light	.46	.50	.61
Bright stock, dark	.44	.49	.60

Quotations in the above table, as of July 1, are lower than the peak figures for the year, the market having reacted downward slightly during the latter part of May and the early part of June.

Eastern lub oil refiners in general have shown large operating profits for the first half of the year. Both domestic consumers and export operators were slow to come into the market for cylinder oil during the advancing period, and in most instances were caught short of their requirements. In addition, refiners in most cases were refusing to book future business, owing to the uncertainty of the market, and thus in many instances were getting peak prices on all of their spot sales. While the trade is looking for a strong lub oil market during the remainder of the year, general sentiment appears inclined to the belief the high prices attained during the first half cannot be maintained. With the price trend on Pennsylvania crude oil turning downward, it is held the recent price advance on cylinder oils has exceeded actual increase in production costs, and with domestic demand now comfortably taken care of a downward reaction is naturally looked for.

There has been little fluctuation in the market for red and pale oils. Pale oil eased off a quarter cent per gallon during the first quarter, but with this exception, prices remained unchanged during the entire six months. Demand for these oils continued along routine lines, with a good deal of the export buying being placed at the Gulf, where stocks have been available for the most part at prices under those prevailing at East Coast refinery points.

Paraffin Wax

The boom in prices and trading which characterized paraffin wax markets during 1928 has not been carried over into the current year. Prices have been unsettled and weak, for the greater part, and demand has likewise failed to come up to the expectations of refiners and operators. The latter, in most instances, guessed the probable market trend correctly, and there was relatively little speculative trading in paraffin during the first six months. Refiners, by their strong price views at the start of the year, were in part responsible for this, making future operations unattractive, from a speculative standpoint. Domestic buying of wax has been on a conservative scale during practically the entire first six months, and export markets have been in much the same position. Declines ranging from 1¼ to 2 cents per pound have been scored in refined paraffin wax during the first six months, and it has been a buyers' market in practically all respects. During the first five months, according to statistics compiled by the Bureau of Mines, domestic demand amounted to but 105,476,000 pounds, against 132,554,000 pounds in the corresponding period last year. During this same period, production was 277,043,000 pounds, against 263,326,000 pounds. Stocks held by refiners as of May 31, last, were 179,139,000 pounds, against 103,639,000 pounds on hand on the same date last year.

Indications of an early turn for the better in paraffin wax are seen, however. During the past few weeks refiners have stiffened appreciably in their price views, and have shown less inclination to extend price concessions as a means of stimulating sales. Thus, while volume of business has fallen off, consumers' requirements have not been satisfied, and a considerable volume of buying has been accumulating. Well posted observers look for an early upward reaction in prices for refined grades, particularly the higher melting points.

Petrolatum

Stable markets for all grades of petrolatum have been in evidence thus far in the year, and volume of business is reported to have run well in excess of that for the comparable period last year in many instances. Heavy buying of white grades by phamaceutical manufacturers during the first three months was a feature, and while this demand eased off a little toward the middle of the year, refiners have booked fairly large totals of white petrolatum business for delivery during the closing half of 1929.

Export buying of the lower grades has been rather sluggish thus far, and the market has shown no fluctuations. Foreign buyers, however, have been utilizing the higher grades more largely, and this buying has gone far to swell export sales totals.

The price range on principal refinery products at Bayonne for the first six months of 1929, with comparison with the corresponding period in 1928, is illustrated by the following table (all prices per gallon unless otherwise specified):

NEW YORK (BAYONNE) REFINERY PRICES

	First half 1929		
	Jan. 1	April 1	July 1
Gasoline, U. S. Motor, 58-60 437	$0.10½	$0.08¾	$0.11
Kerosene, water white, 41-43	.09	.08	.08
Fuel oil*, Bunker "C," 14-16, bbl.	1.05	1.05	1.05
Fuel oil†, Diesel, 28-30, bbl.	2.00	2.00	2.00
Gas oil, 32-36 gravity	.05¼	.05	.05
25 pale Paraffin oil	.11¾	.10½	.10½
28 pale Paraffin oil	.07½	.07¼	.07¼
285 red Paraffin oil	.11½	.11½	.11½
250 red Paraffin oil	.11	.11	.11
225 red Paraffin oil	.09½	.09½	.09½
200 red Paraffin oil	.09	.09	.09
Refined wax—			
120-122 a.m.p., per lb.	.05⅝	.04⅞	.03⅝
125-127 a.m.p., per lb.	.05⅝	.05⅛	.04⅛
130-132 a.m.p., per lb.	.06⅛	.06⅛	.04¾
133-135 a.m.p., per lb.	.07⅛	.06⅝	.06⅛
135-137 a.m.p., per lb.	.07⅝	.07⅛	.06⅛
Petrolatum, in bbls. carload lots, per lb.—			
Dark green	.02	.02	.02
Amber	.03½	.03½	.03½
Extra Amber	.03⅝	.03⅝	.03⅝
Cream	.06½	.06½	.06½
Lily white	.07½	.07½	.07½
Snow white	.08½	.08½	.08½

*Lighterage, 5.0c a barrel extra. †Lighterage 6.5c a barrel extra.

	First half 1928		
	Jan. 1	April 1	July 1
Gasoline, U. S. Motor, 58-60 437	$0.08¼	$0.09	$0.10¾
Kerosene, water white, 41-43	.07½	.07½	.08
Fuel oil*, Bunker "C," 14-16, bbl.	1.35	1.35	1.15
Fuel oil†, Diesel, 28-30, bbl.	2.10	2.00	2.00
Gas oil, 32-36 gravity	.05¼	.05¼	.05¼
25 pale Paraffin oil	.12	.12	.12
28 pale Paraffin oil	.07	.07	.07
285 red Paraffin oil	.11½	.11½	.11½
250 red Paraffin oil	.10½	.10½	.10½
225 red Paraffin oil	.09½	.09½	.09½
200 red Paraffin oil	.09	.09	.09

(Continued on Next Page)

EVERYTHING that industry makes or uses must be moved! Why, then, depend upon the slow, plodding pace of this Volga Boatman? Why, in this Age of Speed, gear production to the inefficiency of obsolete handling methods?

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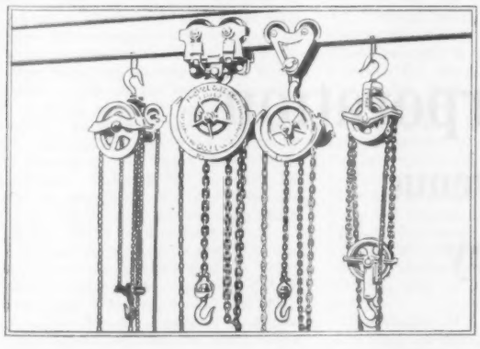

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	First half 1928		
	Jan. 1	April 1	July 1
Refined wax—			
120-122 a.m.p., per lb.	.03¾	.04	.04¾
125-127 a.m.p., per lb.	.04	.04⅛	.04⅝
130-132 a.m.p., per lb.	.04½	.04⅛	.04⅞
135-137 a.m.p., per lb.	.05¼	.06	.06¾
Petrolatum, in bbls., carload lots, per lb.—			
Dark green	.01¾	.02	.02
Amber	.03⅝	.03⅝	.03¼
Extra Amber	.03¾	.03¾	.03¾
Cream	.06½	.06½	.06⅝
Lily white	.08⅛	.08¼	.08
Snow white	.09½	.09¼	.08¼

*Lighterage, 5.0c a barrel extra. †Lighterage 6.5c a barrel extra.

DEVELOPED MAJOR FIELD IN S. W. TEXAS

(Continued from Page 119)

14-inch feeding lines from various pools, the line will be 18-inch from Mathis in San Patricio County for a distance of 30 miles north and then change to 20-inch for a distance of 60 miles, which brings it to a point east of San Antonio. The understanding is the line will serve some gas to San Antonio and through a 14-inch line to New Braunfels to the power plant of the Public Service Co. and may and probably will go on farther north. It will have a capacity of 125,000,000 feet daily. The Moody-Seagraves interests are laying a line from the Refugio Field to San Antonio. These lines are reported more in detail elsewhere and are mentioned here because of their bearing on the oil and gas development in Southwest Texas. A dozen thriving small cities between San Antonio and Houston are to be supplied with gas besides some big industrial concerns which creates a demand for more gas. This means there will be some additional drilling. The Magnolia Gas Co. is already starting this in two spots. One is in the Mathis Field in San Patricio County near the southern end of its big line. This pool got off to a bad start when first discovered two or three years ago with a couple of bad blowouts and cave-ins forming craters. The wells, before they ran wild, were gauged at 40,000,000 feet. No drilling has been going on in the field for months. Magnolia may be able to bring it back. Magnolia is also starting to develop a gas area north of the Magnolia-Cole Pool in Webb County where there is a known gas area discovered by John J. O'Hern late last year.

Mergers in First Half

During the six months period just closing, two merging operations have brought into being a pair of strong independents in Southwest Texas, both of which have a complete cycle of oil processes from production to marketing.

Right at the turn of the new year long negotiations were concluded and formal announcement made that the Grayburg Oil Co., pioneer San Antonio independent, with assets of about $8,000,000 had been acquired by Indiana Oil & Gas Co., through a stock exchange.

Grayburg was organized in 1914 and started developing production in the Somerset Field, 18 miles southwest of San Antonio. Later it built a refinery in San Antonio which now has 4,000 bbls. capacity. The company also owns a 19-mile pipe line from Somerset and a 65-mile pipe line from Luling, where it has production. Its marketing system includes a score of retail stations in this section. In the merger, about 4,000 bbls. of new production passed to Grayburg, mostly located in the Yates Pool and in Cook County in North Texas. Silas M. Newton is president of Grayburg, and Dr. F. L. Thompson, founder, is chairman of the board of directors.

The second merger of importance was announced early in April when the Texas Petroleum Products Co. was acquired by the Schimmel Production Co. of Fort Worth. The former company acquired the Witherspoon refinery in 1927, since which time it has been active as a factor in this section. It also acquired about 200 bbls. Somerset production at this time.

With the merger, the name was changed to Texas Petroleum Co. with V. G. Schimmel as president. It continues to market its trade-marked products through its system of bulk stations. The company acquired from Schimmel in the merger considerable undeveloped acreage in West Texas from which new production is expected to permit immediate future expansion.

SOUTHWEST TEXAS

Completions by Counties First Six Months of 1929

County—	Comp.	Prod.	Dry	Gas
Bastrop	30	8,652	9	0
Bexar	24	40	12	2
Bee	1	0	0	1
Brooks	4	0	4	0
Colorado	1	0	1	0
Caldwell	268	92,226	54	2
Comal	1	0	1	0
Calhoun	1	0	1	0
Duval	54	3,662	17	18
Frio	2	0	2	0
Fayette	2	0	2	0
Edwards	2	0	2	0
Gonzales	9	0	9	0
Guadalupe	15	0	13	2
Goliad	7	0	7	0
Hays	2	0	2	0
Jim Hogg	15	560	6	1
Jackson	4	0	4	0
Kleberg	2	0	2	0
Live Oak	2	0	2	0
Lavaca	1	0	1	0
Milam	1	0	1	0
Medina	9	0	9	0
Maverick	4	0	4	0
Nueces	12	0	7	5
Refugio	43	7,140	15	13
San Patricio	4	0	2	2
Starr	1	0	1	0
Travis	2	0	2	0
Uvalde	1	0	1	0
Victoria	4	0	4	0
Webb	56	3,850	21	16
Zapata	27	988	11	4
Zavala	2	0	1	1
Total	613	117,118	228	67

Completions by Month

Month—	Comp.	Prod.	Dry	Gas
January	123	18,842	39	13
February	106	18,381	48	13
March	81	25,299	31	8
April	136	27,475	45	15
May	93	12,545	38	10
June	74	14,576	27	8
Total	613	117,118	228	67
First 6 mos. 1928	302	8,747	166	67
Difference	311	108,371	62	0

NORTH TEXAS AND PANHANDLE REVIVAL

(Continued from Page 116)

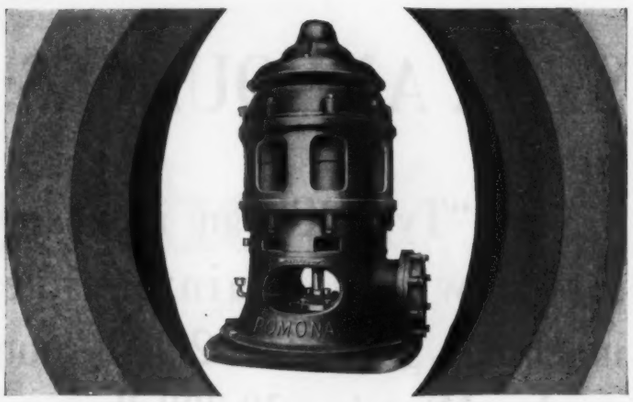
a consequence the production in the county is likely to climb quite steadily with the possibility of it doubling its present output.

New Pools in Wichita Falls District

In Wilbarger County, in the Wichita Falls district, a 2-mile extension of the deep producing sand zone was made by J. S. Cosden, Inc., in its well in the NW cor. Section 35, Block 2, H.&T.C. Survey, from a sand at 2,647 feet. It was completed at a total depth of 2,653 feet. This discovery is 2 miles southeast of the Atlantic Oil Producing Co.'s well in the Old Sigler Pool, and opened up considerable deep pay territory in this area.

Another find in Wilbarger County in the six-month period was made in the Eastern Oil Co.'s No. 1 Waggoner "C" in Section 25, Block 4, H.&T.C. Survey. It is a semiwildcat west of the Greyback Pool and southeast of the Rock Crossing Pool, and proved up quite an extensive amount of territory in the southeastern part of the county. It was good for a 250-bbl. well at a total depth of 1,919 feet.

The finding of a good well in the midst of a flock of dry holes was another surprise for Wilbarger when the Lewis Production Co. and Payne's No. 1-B Waggoner, SW cor. Section 17, Block 4, H.&T.C. Survey, topped a sand at 2,413-35 feet and made 700 bbls. on a swab test, flowing 200 bbls. the first 18 hours. This pay sand is in the second Milham series, and due to the fact that the well



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Have your own water supply and eliminate fear of water shortage or high water costs. The *Pomona Water-lubricated Turbine Pump* will lift all the water from your well and do so at lowest cost. Its mechanical excellence means lower power cost. Its simplicity means long life. Its water-lubricated bearings mean freedom from destructive sand-cutting and vibration. Noiseless. No pit needed. If electrically driven, a simple push button starts and stops the pump. An automatic control can be located in a remote position. Capacities 15 to 5000 gallons per minute. Can be installed in wells 4" in diameter or larger.

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"Type K", an inexpensive new lease maintenance machine, good for 2,000 foot work. Mast has 30,000 lbs. capacity, yet whole machine weighs only 8,000 lbs. and can be easily moved.

Write today for Bulletin 27 which gives complete information on this economical new Star

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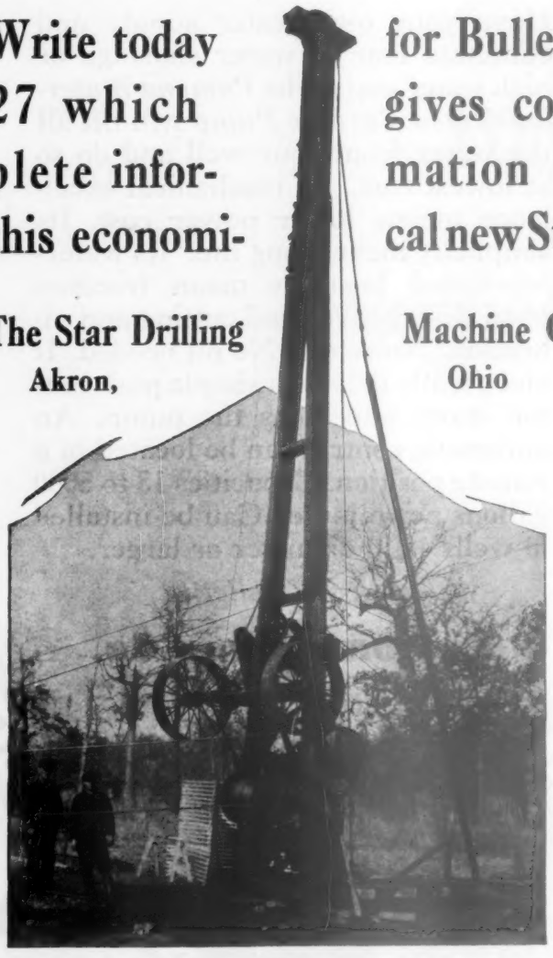

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is surrounded by dry holes, it was a rather interesting one.

Another extension in this area was made by the Consolidated Oil Co.'s No. 1 Waggoner in the SE cor. N half NW Section 40, M.E.P.&P. Survey. It had sand from 1,861 to 1,870 feet and was shut down at the latter depth after swabbing 60 bbls. of oil the first few hours. This discovery extended the 1,800-foot sand and opened more territory in this immediate vicinity. It was reported to be considerably lower on structure than wells in the Consolidated Pool 2½ miles to the southwest.

Revival in Cooke County

The old Bulcher Pool in Cooke County witnessed the bringing in of the best wells of its history, during the first six months, although it had been producing for some time past. One of these wells was The Texas Company's No. 5 Dennis, in the NW cor. J. Jutchinson Survey, Abstract 484. It came in making 950 bbls. the first 24 hours from 1,217-29 feet. The first showing was encountered at 1,195 to 1,217 feet. Since this well was brought in several other large producers have been added to the pool.

The Bulcher Pool was also extended two and a half miles southeast when the Fain-McGaha Oil Corp. brought in its No. 1 Huggins on July 1 of this year. This discovery is located in the northeast part of Section 9, S.P.RR. Survey, Abstract 982. Pay sand was topped from 1,181-89 feet and the well bottomed at 1,190 feet, making 220 bbls. of oil and 15 bbls. of water. The discovery of this well opened up a good-sized area between it and the pool to the northeast.

Wheeler County did not witness the discovery of any new pools, or the finding of any spectacular oil wells, but several big gassers were opened during the first six months of the year. One of these gassers was Neudigate and others' No. 2 Sitler, located in the Shamrock area, and it was completed for 81,000,000 feet from a sand at 2,107-10 feet, with the total depth at 2,110 feet. Other large gassers have been brought in since this one was discovered, every week seeing newly completed gas wells.

Foard County's First Pool

The Shell Petroleum Corp. sprung one of the most interesting surprises during the month of June when its No. 1 Tarver encountered a gas sand at 1,945-55 feet, another at 2,014-18 feet, another at 2,110 feet, and an oil-bearing gray lime at 2,113 feet. It was given a swabbing test at the last-named depth, and produced 57 bbls., later going on the pump and pumping 137½ bbls. the first 24 hours after it had been deepened to 2,124 feet. It pumped for some time at this depth, and began to slump off in production so the company decided to deepen. It was then drilled to 2,130 feet where it was allowed to stand for a time, then deepened again, to 2,153 feet at which depth it swabbed and flowed 238 bbls. in 24 hours. This well opened the first pool in Foard County. It is located in G.C.&S.F. Survey No. 3, in the northeastern part of the county. The Sinclair Pipe Line Co. built a 15½-mile line from its pumping station in the Fluhman Pool, Wilbarger County, to the Shell discovery and contracted for the production. Many tests have been started in this area since the discovery, and results of these will be closely watched, for it is believed quite generally that a good pool has been opened by this well.

All of the counties in the Wichita Falls district, except Cooke County, have been producing practically the same daily average as they did in the last six months' period of 1928. Cooke County increased its daily output from around 2,500 bbls. to 6,300 bbls. at the close of June. Big wells in the old Bulcher Pool and new discoveries are responsible for this increase, and with the present activity continuing more discoveries are liable to be made, and the production may soar to still higher figures.

Archer Very Active

Archer County is one of the most active areas in the North Texas district. Many good wells were brought in in the first half of the year and many are drilling at present, with good chances of success. One of the largest wells in this county developed in saturated lime, was brought in when Bridwell and others' No. 1 W. J. Logan and others, in the southeastern part of the J. M. Taylor Survey No. 25, Abstract 648, topped a hard lime at 1,139-41 feet and encountered a saturated lime pay at 1,141-45 feet. It was bottomed at the latter depth, swabbing 50 bbls. an hour, 15 per cent water.

One of the latest discoveries in the Wichita Falls district is W. R. Stafford's No. 1 Brown, located in the southeast corner of T.E.&L. Survey No. 290, about 6 miles south of the Benson Pool in Young County. This well encountered an oil show at 5,554-56 feet and was shut down at the latter depth for an initial production of 25 bbls. Dry holes dot the area around this well, but there is a possibility of a small pool. The nearest production is in the Benson Pool.

Jack County Increases Output

Jack County has been extremely active during the past six months, with many good new wells in the Bryson Pool and several other good producers in the many other small pools dotting the county. The last find in the county, however, was made by the Buttram Petroleum Corp. when their No. 1 Boyd Brothers discovered the Strawn sand at 2,423 feet. The well was shut down at 2,425 feet with the hole filling with fluid, salt water coming in from above, but this was shut off and the well put on the pump, looking good for about a 30-bbl. producer. It is located 2 miles west of the Avis Pool, 8 miles north of Jacksboro, in the I. N. Wright Survey.

The Panhandle Refining Co. completed a semiwildcat in the Bryson Pool when its No. 1 Daugherty, located in the northern part of the Isaac Hughson Survey, extended the original Leidiker pay 1½ miles southwest. It was completed at a total depth of 3,097 feet, making 3,100 bbls. daily, the best well in the Bryson Pool. This boomed the pool at once, and many new tests were put down, several of the other wells making big production also, and causing Jack County to take a seat among the most interesting counties in the Wichita Falls district.

In the Ranger district the past six months shows a daily average production practically level with that of the last six months of 1928, or a total of the area around 42,000 bbls., Shackleford and Brown Counties being the two largest producers in the district with Shackleford leading Brown.

Extensions in Shackelford

Roeser & Pendleton and Marland extended the Cook Pool of Shackleford County one mile west in their No. 2-88 Cook, which was completed for 260 bbls. of oil and 12,000,000 feet of gas at a total depth of 1,413 feet after striking the sand at 1,400 feet.

Another discovery in Shackelford County was made by Oyster & Rife, independent operators of Abilene, Tex. Their discovery was made on the H. Y. and R. A. Davis ranch, C SW NE Section 15, T.&P. Survey No. 14. A sandy lime was struck at 1,604 feet and the well shut down at 1,612 feet, making 45 bbls. daily, and creating a fast play in this sector on the west side of the county.

New Pool in Eastland

The Hoffer Oil Corp and others' No. 1 Gray, NE Section 485, S.P.RR. Survey, Eastland County, opened up a new pool when it came in flowing around 110 bbls. the first 13 hours, but later increased to about 1,000 bbls. daily, making one of the best wells in the county. The Lake sand was topped at 3,446 feet, and the well completed at 3,451 feet, producing 38.7 gravity oil. This well is about 5 miles north of the town of Cisco, consequently this new area found itself let in for a good play.

Coleman's Activity

The Morris Pool in Coleman County has been having much activity during the past few months, and has brought in some extra good wells for that county, two of them being the Eastland Oil Co. and others' No. 1-A and 2-A Keeney, the former being completed at 2,002 feet with an initial production of 590 bbls. and the latter with an initial production of 900 bbls. with gas gauging 14,000,000 feet.

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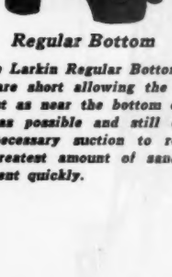

Bit Bottom

This bottom is used for drilling and breaking the sand loose. Its chisel shaped design is unique, prevents sticking, and allows successful operation in tightly packed sands.

The last good well of this pool was brought in during the week when the White Eagle Oil & Refining Co.'s No. 1 Morris, in Section 25 of the Wm. Webber Survey, came in making 1,672 bbls. the first 24 hours, by far the best well in this new Fry sand area. This well is the farthest southwest well of the pool, and marks a small extension in that direction. The Eastland Oil Co.'s No. 3-A Keeney also came in during the week making 80 bbls. of oil and 15,000,000 feet of gas; it is an east offset of the Eastland's 1-A Keeney, the first well in the Keeney section of the pool in the Cochran Survey. These last two good wells are bound to cause a big reaction and drilling program in the field, and it is expected to produce a large volume of oil before it is thoroughly drilled up, possibly one of the best pools in the county.

Another Fry sand pool was opened by the Herbert Oil Co. in Coleman County, by their No. 1 Weaver, located in the NE cor. of Lot 16, Andrew Gabel Survey No. 271. The pay was topped at 1,813½ feet and the well completed at 1,823½ feet, flowing 160 bbls. daily. Gravity of the oil is 44.1, and brings a fat price under the present posted prices, which were raised in this area at the same time that postings were marked up in the Mid-Continent and North and West Texas.

The latest pool opened in Coleman County was discovered by the Taylor-Link Oil Co. on its Huddleston (Barker) lease in the NE of Section 105, E.T.R.R. Survey, 9 miles southwest of Santa Anna, in Coleman County. This discovery topped the Babbington sand at 681½ feet and was completed at 683 feet, pumping 200 bbls. of 42 gravity oil the first 24 hours. This company has brought in its second well, a south offset at a total depth of 667 feet, with an initial production of 95 bbls., but several other tests are drilling at the present time, and the pool looks good for other good producers.

Due to the high price of crude in the Ranger district, and the high gravity of the oil found all over the district, there was much activity in the first half of the year, especially since the rise in crude prices. All of the producing counties are due to receive still greater activity in the next six months. Much of the production is from shallow pay, with easy drilling, which makes the district especially enticing to the small operator, who generally sells out after he has brought in a likely looking producer.

NORTH CENTRAL TEXAS COMPLETIONS

First Six Months, 1929

County—	Comp.	Prod.	Dry	Gas
Archer	304	6,848	172	0
Brown	205	2,072	133	8
Callahan	81	851	53	2
Clay	28	295	16	0
Coleman	133	3,379	86	17
Comanche	6	113	1	1
Cooke	65	6,954	21	9
Eastland	77	2,286	49	7
Erath	17	0	4	13
Fannin	1	0	1	0
Foard	2	0	2	0
Grayson	8	0	1	7
Haskell	5	165	3	0
Hood	2	0	2	0
Jack	30	2,936	11	2
Knox	3	25	2	0
McCulloch	5	0	4	1
Mills	1	0	1	0
Montague	25	377	12	0
Palo Pinto	18	50	10	7
San Saba	1	0	1	0
Shackelford	165	9,186	82	2
Stephens	44	514	22	11
Throckmorton	12	85	7	1
Wichita	211	11,997	86	0
Wilbarger	227	23,208	54	0
Young	255	4,001	135	0
Total	1,931	75,342	953	79

Completions by Months

	Comp.	Prod.	Dry	Gas
January	286	14,789	131	9
February	266	11,399	127	8
March	372	11,967	186	14
April	278	9,959	145	12
May	391	13,516	197	22
June	338	13,712	167	14
Total, 6 mo.	1,931	75,342	953	79
First half, '28	1,917	89,439	896	72
Difference	14	14,097	97	7

TEXAS PANHANDLE

Completions by County, First 6 Month, 1929

County—	Comp.	Prod.	Dry	Gas
Carson	23	4,599	1	5
Cochran	2	0	2	0
Cottle	1	0	1	0
Gray	94	83,822	12	4
Hall	1	0	1	0
Hartley	1	0	0	1
Hutchinson	42	7,417	1	5
Moore	17	3,878	2	4
Motley	2	0	2	0
Wheeler	40	130	4	35
Completions	223	99,846	26	54

Completions by Months

Months—	Comp.	Prod.	Dry	Gas
January	26	6,581	1	5
February	34	6,414	6	5
March	32	9,427	3	6
April	42	4,382	6	15
May	45	32,193	8	11
June	44	40,849	2	12
Total	223	99,846	26	54
First half, 1928	194	38,981	50	55
Difference	29	60,865	24	1

CENTRAL OHIO LED IN OLD CENTRAL WEST AREA

(Continued from Page 113)

The above wells were distributed among the various counties in the Lima Field as follows:

County—	Comp.	Prod.	Dry	Gas	Abd
Wood	13	119	5	0	28
Hancock	12	225	0	3	2
Allen	12	210	1	0	13
Auglaize	0	0	0	0	2
Sandusky	0	0	0	0	18
Mercer	4	6	1	1	4
Van Wert	1	8	0	0	0
Seneca	21	466	7	4	1
Lucas	2	0	1	1	1
Ottawa	1	6	0	0	3
Hardin	4	0	3	1	0
Darke	1	8	0	0	0
Wyandot	1	0	0	1	0
Shelby	1	10	0	0	0
Total	73	1,058	18	11	72

Central Ohio

For the first six months of 1929, the wells completed in the Central Ohio Field were by months as follows:

Month—	Comp.	Oil wells	Prod.	Dry	Gas
January	82	21	517	26	35
February	93	29	822	27	37
March	92	22	679	28	42
April	100	24	721	28	48
May	103	32	672	31	40
June	139	50	1,769	42	47
First half 1929	609	178	5,180	182	249
First half 1928	150	30	1,232	45	75
Difference	459	148	3,948	137	174

The above wells for the first half of 1929 were distributed by counties as follows:

County—	Comp.	Oil wells	Prod.	Dry	Gas
Ashland	102	33	591	40	29
Medina	23	7	134	6	10
Lorain	18	0	0	7	11
Wayne	35	2	5	14	19
Holmes	21	2	62	7	12
Cuyahoga	5	0	0	2	3
Richland	7	0	0	2	5
Knox	22	2	100	6	14
Coshocton	20	15	604	2	3
Summitt	40	1	30	13	26
Licking	66	45	1,108	12	9
Muskingum	35	20	2,045	9	6
Athens	74	4	20	23	47
Meigs	50	30	167	11	9
Jackson	23	0	0	4	19
Vinton	11	2	35	5	3
Stark	6	1	3	1	4
Lawrence	5	0	0	4	1
Gallia	4	0	0	0	4
Tuscarawas	1	1	1	0	0
Fairfield	5	1	14	0	4
Guernsey	27	8	252	12	7
Ashtabula	3	0	0	0	3
Belmont	4	1	5	2	1
Scioto	1	1	2	0	0
Columbiana	1	1	2	0	0
First half 1929	609	178	5,180	182	249
First half 1928	150	30	1,232	45	75
Difference	459	148	3,948	137	174

Indiana

The wells completed for the first six months of 1929 in the Indiana fields were by months as follows:

Month—	Comp.	Prod.	Dry	Gas	Old wells abd.
January	12	121	3	2	1
February	4	5	1	2	0
March	12	70	3	5	12
April	8	157	2	3	12
May	14	115	8	3	6
June	15	195	9	1	16
First half 1929	65	663	26	16	47
First half 1928	88	1,413	31	12	32
Difference	23	950	5	4	15

The above wells for the first six months of 1929 were distributed among the various counties as follows:

County—	Comp.	Prod.	Dry	Gas	Abd
Adams	2	40	0	0	3
Jay	0	0	0	0	18
Delaware	1	0	1	0	6
Gibson	20	116	8	6	8
Pike	9	85	0	6	3
Daviess	1	0	1	0	0

(Continued on Next Page)

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Sullivan	5	25	2	1	9
Spencer	13	142	6	0	0
Perry	1	0	1	0	0
Vandeburg	1	0	1	0	0
Henry	1	0	0	1	0
Hancock	1	0	0	1	0
Marion	2	0	1	1	0
Greene	1	0	1	0	0
Warrick	2	0	2	0	0
Monroe	1	0	1	0	0
Starke	1	0	1	0	0
First half 1929	65	663	26	16	47
First half 1928	88	1,413	31	12	32
Difference	23	750	5	4	15

Illinois

During the first half of 1929 the completions in the Illinois Field were by months as follows:

Month—	Comp.	Prod.	Dry	Gas	Old wells abd.
January	16	511	5	1	6
February	11	96	7	0	1
March	17	167	9	0	2
April	10	184	7	0	2
May	14	1,259	4	0	22
June	17	1,094	2	0	5
First half 1929	85	3,311	34	1	38
First half 1928	53	620	17	5	20
Difference	32	2,691	17	4	18

The above wells were distributed among the various counties as follows:

County—	Comp.	Prod.	Dry	Gas	Abd
Clark	5	4	3	0	0
Crawford	16	146	3	1	0
Lawrence	9	454	4	0	14
Wabash	24	484	14	0	0
St. Clair	28	2,143	8	0	0
Saline	1	80	0	0	0
Marion	0	0	0	0	8
Monroe	1	0	1	0	16
Clay	1	0	1	0	0
Total	85	3,311	34	1	38

KENTUCKY-TENNESSEE

(Continued from Page 167)

Daley and Lowman's test on the coal company lease, is reported at 30 bbls. initial.

In the Niagara Pool, of Henderson County, the Niagara Oil & Gas Co.'s test on the Clark, struck 42 feet of pay sand at a depth of 700 feet, also found a Jett sand pay at 576 feet, and is reported good for 75 to 100 bbls. initial.

Another good well has been found by the Ohio Oil Co. in a second test on the Kennedy farm, a short distance south from Greenville, in Muhlenburg County. Late report from the well is that it is good for 75 bbls. but not as large as the initial well on the lease when it came in.

Fred C. Moore and others have drilled four dry holes in Larue County and are now working on No. 5 and if it is a failure, it will end the idea of hunting further for production in that area.

In the eastern part of Kentucky, in Morgan County, the Petroleum Exploration Co. drilled a dry hole on the J. T. Lewis farm. Same company's No. 1 J. T. Johnson farm, on the Crane Creek, east of an old gas well, in Clay County, was dry, as was a test on the America Reid lease, on Crawford Run, same county.

Field Pickups

The Ohio Oil Co. is reported to have secured leases on approximately 30,000 acres, in Hopkins, Muhlenburg and Christian Counties, and will soon start a deep test near White Plains, in Hopkins County.

C. H. Maxey, well known Glasgow, Ky., oil operator, and also operating in the Ohio County Field, is moving two drilling outfits to the Dupo Field, in St. Clair County, Illinois, where there is a drilling boom on town lots.

Drilling by the E. M. Treat Co. on the Silas Martin farm, in the Greenville Field, of Muhlenburg County, found a showing of oil at around 500 feet, but will go to the lower sands where the Ohio Oil Co. found its good production on the Kennedy farm. There has been considerable delay in the drilling of the well on the Brazier farm, in the same field, by the losing of a string of tools in the hole. The grab hooks were later lost in an effort to retrieve the tools.

Lyman C. Scott and William Duncan, oil operators of Toledo, Ohio, who are operating in Ohio and Daviess Counties, are rounding up a block of leases of 2,000 acres in McLean County, in the neighborhood of New Cypress Church, on the south side of Green River. They agree to locate a drilling outfit on the block within 90 days and will drill two test wells to a depth of not less than 2,000 feet, it is reported.

CENTRAL WEST FIELDS

(Continued from Page 82)

Garfield Brooks, Section 3, is credited with a production of 5 bbls. in the upper Berea sand at from 1,187 to 1,193 feet. Davis & Mock made a location for a second test on the J. W. Stanley, Section 3.

In Lawrence County, Upper Township, the Inland Gas Corp. is drilling No. 5 on the Hecla Iron & Mining property, Section 13.

In Starke County, Lawrence Township, the Ohio Brass Co. has an exceptionally fine gas producer on the Phil Moke, Section 4, from 3,863 to 3,895 feet. In Lexington Township, the Alliance Machine Co. has a 2-bbl. pumper in a second test on the All Structure & Fuel Co.'s property, Section 36. F. A. Hoile's test on his own farm, same area, is credited with 4 bbls. initial.

In Guernsey County, Wheeling Township, J. T. Watson and others' test, on the Robert McMurray, Section 19, is reported dry. In this well the top of the Lima was found at 3,491 feet and Lime sand from 3,653 to 3,661 feet, total depth 3,664 feet. Ohio Fuel Gas Co. is drilling No. 1-4,727 on the John Grumblette, Section 2, same township.

In Belmont County, Somerset Township, Lewis and others are drilling a second test on the Lucretia Pakari, Section 25.

In Morgan County, Penn Township, Henning Brothers' No. 26 Ada Harper, Section 2, is a light gas well in the lower Berea sand from 1,597 to 1,621 feet, total depth 1,625 feet. H. & M. Gas Co. found a very light gas well in No. 5 on the W. B. and L. C. Newton, Section 35, in the same formation from 1,484 to 1,506 feet, total depth 1,508 feet. James Moore and others are drilling No. 19 Clyde Foraker, Section 19, Union Township. Ohio Fuel Gas Co. is drilling No. 1-3,563 on the Frank Coulson, Section 2, Marion Township.

INDIANA

The territory in the extreme southern part of Indiana is looking more valuable than since development work started. Spencer County now has the call and showing what is considered commercial wells worth going after. The E. M. Treat Co. has drilled in a second test 220 feet from the south line and 660 feet from the west line of the George Cessnea, in the southwest quarter of Section 35, Ohio Township, which had an initial production of 25 bbls. Sand was topped at 1,275 feet and drilled 10 feet into the sand. The Randall-Sharp interests drilled a second test on the Leo Strassell, in the northwest quarter of Section 2, same township, getting a 15-bbl. well at 1,296 feet, or 6 feet in the sand. Unknown parties drilled a duster on the Brown Trust Co.'s property, same county, at 1,400 feet.

In Washington Township, Pike County, in the southwestern part of the State, Charles C. Taliaferro, Jr., trustee, found a dry hole in a second test, 1,000 feet from the south and east lines of the Aaron George farm, in the northwest quarter of Section 29, at a depth of 1,120 feet. Murphy Oil Co. abandoned old No. 2 on the J. R. Gladish heirs' farm, Section 20, Madison Township, same county.

In Daviess County, L. G. Gee and others' No. 7 in the southeast corner of the Frank Gaither farm, in the northwest quarter of Section 21, Veale Township, was dry at a total depth of 1,000 feet. Sand was topped at 976 feet and 5 feet of sand was found.

In Sullivan County, Gill Township, Seitz & Bailey found a dry hole 200 feet from the south line and 660 feet from the east line of the J. R. Johnson farm, in the northwest quarter of Section 4, at 825 feet.

State Supervisor's Report

Compiled by Paul F. Simpson, state gas supervisor, Department of Conserva-

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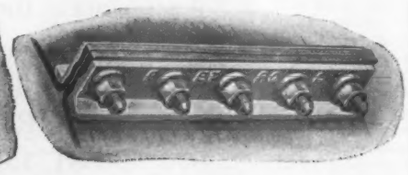

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tion, Division of Geology, of Indianapolis, Ind., by counties:

Adams County—No. 2 Otto Baker, drilled by George Lacknett and others in Section 14, Jefferson Township, came in with an initial production of 30 bbls. Scoofakes & Hefflin got 10 bbls. initial production from their No. 4 Clark Stanley, in Section 34, Wabash Township.

Clay County—The Siosi Western Oil Co. is taking leases on 2,000 acres surrounding Clay City, and will move a rig soon to test the vicinity. Showings were once found on the Scott farm near Clay City.

Daviess County—L. L. Gee and others got a dry hole at 1,357 feet in the No. 2 Tilman Gaither well, in Section 22, Veale Township.

Delaware County—Max Ziegler and others have abandoned Nos. 10, 11, 12, 13, 14 and 15 on the C. Marsh farm, Section 17, Delaware Township. The Harley DeMoss well being drilled in Section 36, Liberty Township by F. E. Rickow, was completed a dry hole.

Gibson County—Four wells became too light to pump and were abandoned: The No. 1 James Young, and the Nos. 1, 2 and 3 J. W. Phillips, all in Section 7, Washington Township. The Washington Oil Syndicate drilled to a deeper sand in the Laura Dillon well in Washington Township, but found no oil, so the well was plugged back to the sand at from 1,171-78 feet which is producing gas. The Ross McElhiney and Claud Norrick wells in Center Township were plugged recently. The United Petroleum Corp. plugged its No. 3 J. W. Phillips in Washington Township. The Big Four Oil & Gas Co. got a dry hole at 1,400 feet in its C. T. Sloan well in Section 18, Washington Township, but plugged it back to 1,240 feet, where it is producing 500,000 feet of gas. Mann and Huber got gas in the Paul White well in Section 18, Washington Township. Rodgers and Randall got an initial production of 40 bbls. from the No. 3 John D. Williams in Section 5, Barton Township. The sand was found at 1,324-40 feet.

Johnson County—The Universal Development Co.'s well on the McQuiston farm, 4 miles northwest of Franklin, is shut down again, after drilling several feet into the New Richmond formation.

Marshall County—William B. Michel's second well on the Frank Lamson farm east of Plymouth is down about 600 feet. Preparations are being made to start the third well.

Perry County—The Hitchins & Robertson well on the Joseph Schneider farm in Section 22, Troy Township, is closed down, having reached a depth of 300 feet. The well drilled by P. E. Tichenor and others on the Welborn farm at the mouth of Deer Creek was plugged.

Pike County Work

Pike County—The Texana Oil Co. will resume drilling operations in its deep test on the John Ford farm in Location 9, Clay Township, as soon as it recovers the tools lost at 2,300 feet. No. 11 on the Alice Frederick farm in Clay Township was plugged by the Murphy Oil Co. The Bement Gas Co.'s No. 2 on the Aaron George farm was reported coming in with 4,000,000 feet of gas from 1,140 feet, but No. 3 was dry at 1,200 feet. It is preparing to drill again. The Lew George well in Section 29, Washington Township, drilled by Charles A. Taliaferro, Jr., is producing 2,000,000 feet of gas from a depth of 1,124 feet, only 1 foot in the sand. The No. 1 Ray E. Gladish in Section 30, Madison Township, got too light to pump and was plugged. The No. 9 H. L. Kays in Patoka Township was plugged for the same reason. Charles C. Taliaferro, Jr., obtained an initial of 50 bbls. from the No. 2 Della Kime, in Lot 12, Clay Township, from a sand at 1,221 to 1,232 feet. No. 3 on the same farm is being started. The Shell Oil Corp. is down 300 feet in its well on the Miley farm. Randall and Rogers brought in a 25-bbl. well on the Thompson farm, 2 miles southeast of Oakland City.

Spencer County—Richards and others are planning to drill in Ohio Township. Libb and others abandoned their well on the William Arnold farm, in Section 17, Huff Township, after drilling 300 feet. Ellis and Young are drilling on the Henry Bretz heirs' farm, Section 34, Ohio Township. They plugged their 1,060-foot hole on the William Bretz farm in Section 3, after encountering only a slight showing. The well drilled by E. M. Treat & Co. on the George Cissna farm, Section 35, has settled to 17 bbls. Ben Robinson and others have suspended operations on the A. C. Huff farm in Section 18, Huff Township, after reaching a depth of 830 feet. A rig has been placed on the Hupport farm, near Gentryville. The Packard Oil Co.'s No. 3 Ray in Section 11, Huff Township, was reported as starting at 25 bbls. after drilling deeper. Randall and Sharp are nearing the completion of their second well on the Leo Strassel farm in Section 3, Ohio Township. Pumping was started on the Hugh Stuteville well about June 24. The Ohio Oil Co. plugged its well on the Nine Winchell lease in Ohio Township, the hole being dry at 1,400 feet.

Sullivan County—Fred Bays is drilling on the R. M. Bledsoe farm, Section 26, Gill Township. Burns & Carey are down 700 feet in the No. 1 Lige Duffer in Section 30, Turman Township. Bailey & Seitz are down 500 feet in the No. 1 J. R. Johnson in Section 4, Gill Township. C. W. Scott and others obtained an initial production of 20 bbls. from 2,200 feet in their No. 3 C. W. Scott, in Section 6, Fairbanks Township. They are starting the fourth well. The Dome Gas Co. has reached 1,750 feet on the Morris Unger farm, in Section 26, Gill Township. The No. 3 Elmore Williams being drilled by the Twin Creek Oil Co., in Section 5, Fairbanks Township, is down 1,200 feet. The Siosi Oil Co. is drilling at 800 feet in the No. 4 Ikey Williams, Section 5, Fairbanks Township.

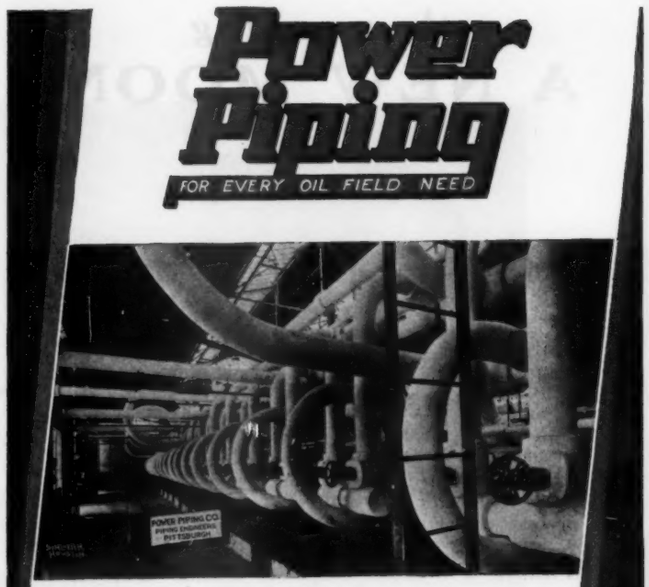
Vigo County—The F. E. Shattuck well in Section 32, Prairie Township, has reached a depth of 1,360 feet. In the same section the Siosi Oil Corp. is drilling the second well on the Lennie Thomas farm.

ILLINOIS

The new Dupo Field of St. Clair County is the most attractive development in Illinois at present and the shallow drilling has brought about much activity with very few dry holes. The oil comes from the Trenton limestone, which was such a heavy producer in northwestern Ohio and Indiana some years ago. The best of the late completions in the Dupo Field was made by Thomas Wheland in his No. 1 on the Lena Harpst lot, Section 21, Sugar Loaf Township, which showed an initial production of 200 bbls. from 486 to 541 feet. Carnes and Shafer's No. 1 on the Phil Crouch lot, Section 28, same township, produced an initial of 150 bbls. from 517 to 576 feet. James C. Ellis and others' No. 1 on the Thomas Watte lot, in the northeast quarter of the same section, also showed 150 bbls. initial from 472 to 537 feet.

In Section 21, same township, Charles E. Knox Drilling Co.'s No. 1, on the Emma Otten lot, produced an initial of 100 bbls. from 493 to 540 feet. Timberlake and Coleman's No. 1 on the Public School lot, same section, produced 50 bbls. initial from 491 to 542 feet. Trenton Rock Oil Co. is due in with No. 1 on the Congregational Church lot, same section, as is Timberlake & Coleman's No. 1 on the Winterhoff-LaCamp lot, same section. Benoist and others are also due to bring in No. 1 Anna Probst lot, same section.

In Section 28, the Ohio Oil Co.'s second test in the northwest corner of the Matilda Dyroff, in the northeast quarter of the section, produced 80 bbls. initial from 428 to 498 feet. L. G. Blockman's No. 1 on the Edward Mayer lot, same section, produced an initial of 100 bbls. from 476 to 567 feet. The Ohio Oil Co.'s No. 4 Matilda Dyroff, same section, produced 75 bbls. initial from 457 to 541 feet. Same company is due in with No. 3 G. L. Tarlton, same section. W. S. Avery is about due to complete No. 1 on the Earl Proffer lot, same section. Landwehr and Sacks are also due to bring in a second well on the Electric right of



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way, same section. Morris & Yeager are due in with three wells, No. 3 on the H. Mansett, Section 28; No. 3 Alice Dettebach, same section, and No. 1 on the Charles LaCroix, same section.

In Robinson Township, Crawford County, the Associated Producers Co.'s No. 53 well, 2,000 feet from the south line and 650 feet from the west line of the S. D. Meserve heirs, Section 9, pumped 20 bbls. initial from a depth of 1,060 feet.

In Dennison Township, Lawrence County, the Skidmore Oil Co.'s test, 600 feet from the north line and 200 feet from the east line of the A. T. Barden farm, in the northeast quarter of Section 18, came in a duster.

EASTERN FIELDS

(Continued from Page 84)

Co. are drilling a second test on the Harper heirs' farm.

Vinton and Perry Counties

In the SW Section 5, Jackson Township, Vinton County, the Southern Oil Co.'s No. 5 on the J. G. Bone farm is an 8-bbl. pumper in the Clinton sand. In Harrison County, Bell & Scholl have a gasser good for 500,000 feet in the Clinton sand on the Rollo Guy farm. In Section 19, Noble Township, Noble County, McKee Brothers have a Berea grit duster on their own farm.

In the SE Section 25, Marion Township, Hocking County, the Pool Oil & Gas Co. has completed and shot in the Clinton sand a test on the Dora Benning farm. It is a 5-bbl. pumper. In the NW Section 25, Washington Township, same county, the Gordon Oil Co.'s No. 4 on the C. E. Griffith farm is a duster in the same formation.

Shallow Wells

In Salem Township, Washington County, Meister & Blair's No. 5 on the Meister-Blair farm is a 5-bbl. pumper in the Big Injun sand. In Sections 126 and 151, Fearing Township, the F. D. Meister estate and Charles Wirt & Co. are drilling in the sand at tests on the William Berg and E. C. Kidd farms.

In the NE Section 8, Fallsbury Township, Licking County, the Murphy Petroleum Co. has completed and shot in the Clinton sand a second test on the J. W. Little farm. It produced 50 bbls. the first 24 hours. In Lot 31, Clark Township, Coshocton County, the Logan Gas Co. completed a second test on the Victor Scheibe farm. It is a gasser in the Clinton sand good for 1,330,000 feet.

Athens and Mahoning Counties

In Athens Township, Athens County, Craig & Co. have completed in the Berea grit No. 7 on the Hattie Peasley farm. It is a gasser good for 500,000 feet. In Section 32, Smith Township, Mahoning County, Pittsburgh parties have completed in the same formation a test on the Bart Stocker farm. It is a duster.

Light Pumper in Alliance

Inside the corporate limits, in Alliance, Stark County, the Alliance Machine Co. has completed a test on the F. A. Hoiler lot. It is a 10-bbl. pumper in the Berea grit. In Lot 288, Sutton Township, Meigs County, B. M. Tyree has completed No. 6 on the Hannah M. Capehart farm. It is a light gasser in the Berea grit.

SOUTHWEST PENNSYLVANIA

In Morris Township, Greene County, the Carnegie Natural Gas Co. has completed No. 4 on the W. S. Scott farm. It is a gasser in the Nineveh 30-foot sand good for 1,000,000 feet. In Springhill Township, the Manufacturers Light & Heat Co. has a gasser in the Salt sand at No. 3 on the S. Gurgison farm. There are six wells drilling in this and Aleppo Townships.

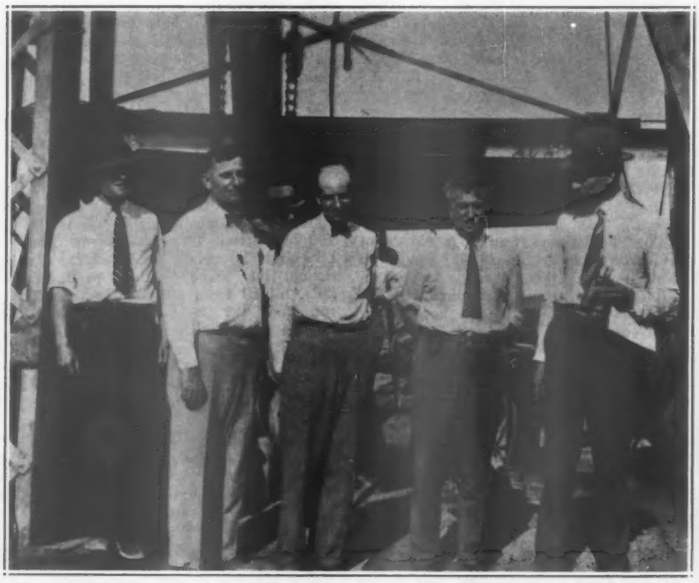
In South Beaver Township, Beaver County, J. L. Abrams has completed a light gasser on the George Davidson farm. In Morris Township, Washington County, the Manufacturers Light & Heat Co. has completed No. 6 on the Day farm. It is a gasser. It was on this farm that the company drilled in No. 5 last March and it has proved to be the best oil producer completed in southwest Pennsylvania this year. It is still holding up close to 100 bbls. a day.

KANSAS OIL PIONEER DIES

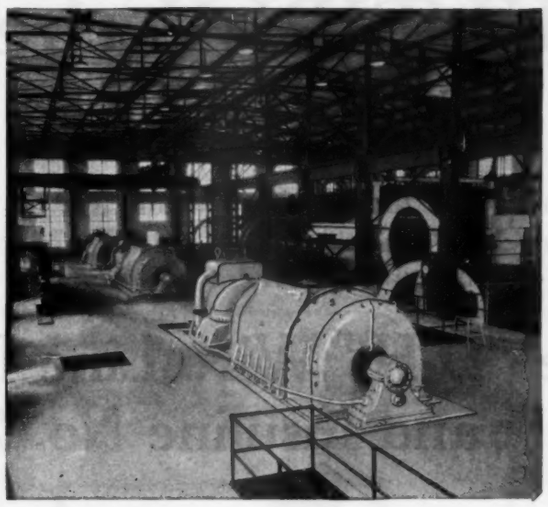
Through the death of William L. Mills at his home in Osawattomie, Kans., the Mid-Continent Field lost one of its pioneers. Mr. Mills was 81 years old and had been in ill health for several years. He grew up in the oil fields of Pennsylvania, and in 1884 came to Kansas. He noticed a newspaper account of a big flow on the Westfall farm, east of Paola, and in 1886 he began to drill for gas a mile east of Osawattomie. He got an excellent well and drilled others.

Mr. Mills drilled more than 400 wells in different Kansas counties.

SECRETARY WILBUR AT KETTLEMAN HILLS



Secretary of the Interior Ray Lyman Wilbur and party at the Milham Exploration Co.'s No. 1 Elliott, the discovery well in the Kettleman Hills Field, California. The party from left to right includes Northcutt Ely, executive assistant to Secretary Wilbur; R. L. Patterson, United States Geological Survey; R. D. Bush, California State oil and gas supervisor; Dr. George Otis Smith, chief of the United States Geological Survey, and Secretary Wilbur, the latter handling a sample of Kettleman Hills high gravity crude.



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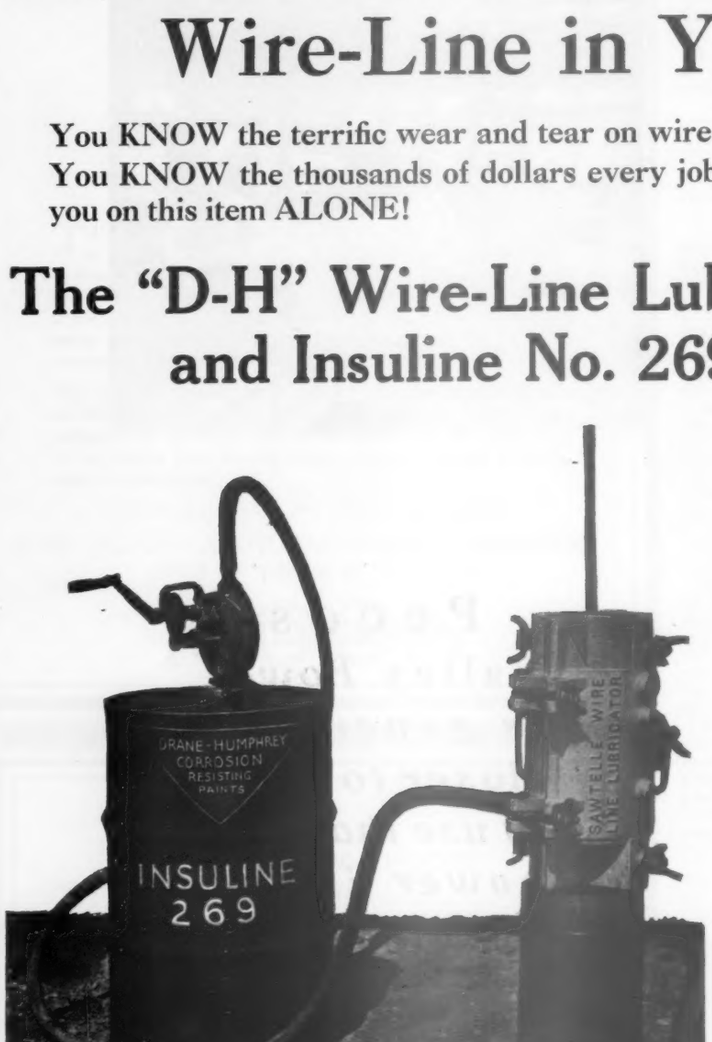

Photo of tank of "Insuline No. 269," with pump and "D-H Lubricator" assembled for operation.

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FIND IMPORTANT NEW POOLS IN OKLAHOMA

(Continued from Page 128)

brought under control. This important discovery is 3 miles southwest of the Wilcox discovery well.

The Sasakwa Pool in Seminole County, north of the Allen Pool, was opened in June and looks like an important discovery. The first well completed was the Sinclair Oil & Gas Co.'s No. 1 Davis, in Section 7-6-8, Seminole County, which started at 1,300 bbls. from the Viola lime after plugging back from the Wilcox sand. The same company's No. 2 Davis was completed the last of June in the Wilcox sand at 4,476-79 feet with an initial production of 4,024 bbls. It is one location north of No. 1 well, and is the first Wilcox sand producer in that region.

Oklahoma City's Deep Pool

For the greater part of the half year there was only one well in the Oklahoma City Pool, opened in December, 1928, by the Indian Territory Illuminating Oil Co. with its No. 1 Trosper, C NE SW, Section 13-11-3w, Oklahoma County, which started at 5,800 bbls a day from sand at 6,402 feet, total depth 6,498 feet. Twenty-nine wells were started after the completion of the discovery well, and only a few of these were completed in the deep sand at the close of June. The Indian Territory Illuminating Oil Co.'s No. 1 Trosper, C NE SW, Section 13-11-3w, Oklahoma County, had a sand at 3,973-86 feet, where it made 232 bbls. and 5,000,000 feet of gas. It is located a mile and a half north of the discovery well. The discovery well started showing water the first week in March. The appearance of water in the well made a great change in the shut down plans of all operators in the Oklahoma City region. The well decreased in production at the same time the water made its appearance. The production declined to 2,600 bbls. a day in the first part of March. An air lift was installed and the well responded by increasing its output from 2,600 to 4,147 bbls. The upper sands in the area directly south of Oklahoma City proved a complete failure as far as oil production is concerned. In some cases good gas showings were encountered and large gas wells could have been completed, but there was no market. Several gas wells were shut in, but it is expected that most of them will be drilled to the deep pay horizon in search of oil. A number of the drilling wells found gas at different depths, which was mudded off. In June the Sinclair Oil & Gas Co.'s No. 1 Stamper, NE SW NW, Section 30-11-2w, found oil in the deep pay horizon. The first big pay was at 6,433-65, from which the well produced 2,500 bbls. a day for 10 days. It was deepened to a total depth of 6,499 feet, increasing its production to 5,275 bbls. a day, but also producing 600 bbls. of water. The next well in the pool was a gasoline well owned by the Sinclair Oil & Gas Co. and others, their No. 1 Kinter, NW SE, Section 30-11-2w, Oklahoma County. At a total depth of 6,192 feet it started making between 40,000,000 and 50,000,000 feet of gas, which yielded about 1,500 bbls. of gasoline a day in separators. The discovery well of the Indian Territory Illuminating Oil Co., the No. 1 Trosper, C SE SE Section 24-11-3w, Oklahoma County, made 2,300 bbls. of oil and 820 bbls. of water on the last day of June. At a recent meeting of operators in the Oklahoma City Pool it was agreed to develop the field conservatively, and 31 new locations were agreed upon at once to be drilled when necessary.

In the last part of June the Coline Oil Co.'s No. 1 Olds, SE cor. NW, Section 24-11-3w, Oklahoma County, found a sand at 6,300-11 feet and made 5,400 bbls. the first 24 hours. It is the only well producing from a true sand in the deep horizon in the field. All the others are producing from a lime formation. The largest well in the field from a production standpoint is the Mid-Kansas Oil & Gas Co.'s No. 2 Fortson, in the C NW NE, Section 24-11-3w, Oklahoma County. It produced 6,735 bbls. the first 24 hours from the deep pay horizon at 6,414-49 feet, and is the most northerly producer in the field at the close of June, 1929. It extended the producing area a mile northwest of the discovery well, and makes the proven area a mile and a half long.

A new well that extends the producing area of the Beebe Field a mile, was completed by the American Refining Co.'s No. 1 Ward, located in the NW NE SW, Section 19-5-5, Pontotoc County. The well had the top of the Viola lime at 2,303 feet, and found the pay in the lime at 2,375-2,405 feet, where the well made 40 bbls. in 12 hours.

McClain County has had several tests, but one that attracted considerable interest was drilled by the Tidal Oil Co., Gardner Petroleum Co. and others, in the C SE SE, Section 31-5-2, where the Wilcox sand was found to contain water at a depth of 4,284-90 feet, where the test was abandoned.

New development work was slow in Hughes County during the first half of the year. The Mid-Continent Petroleum Corp.'s No. 1 McGirt, SE cor. Section 31-9-9, a semiwildcat well, was spraying oil from the Cromwell sand at 3,542-51 feet, where it was making 150 bbls. of oil and 4,500,000 feet of gas. It was the only well of importance completed in the first half of the year.

State's Deepest Test

Coal County has the deepest drilling well in the State, Indian Territory Illuminating Oil Co.'s No. 1 Cook, SW cor. NW, Section 10-1-11, and its owners will drill it to some known horizon before it is abandoned. It has been drilling blue shale for the last 5,500 feet, and had not encountered the Cromwell sand nor the Mississippi lime at a total depth of 7,675 feet. Some geologists advance the theory that it is located in the dip just west of the McAlester fault, and it is not known at what depth the regular horizons that are found in the Seminole fields will be found.

New Pool in Okfuskee

The discovery well in the area north of Okemah, in Okfuskee County, caused several new tests to be started the latter part of last year and completed this year. Two of these tests made good wells in the Dutcher sand. John Cary and Producers & Refiners Corp.'s No. 2 Monmary, SW NE SE, Section 29-12-10, Okfuskee County, had sand at 3,113-26 feet, where it made 400 bbls. daily. The Champlin Refining Co.'s No. 1 Campbell, SE NE NW, Section 29-12-10, was good for 300 bbls. from the Dutcher sand at 3,152-60 feet. The Prairie Oil & Gas Co.'s No. 1 Simmer, NE SE SW, Section 29-12-10, Okfuskee County, had the Lyons-Quinn sand at 3,320-22 feet, and the first 24 hours it made 980 bbls. American Maracaibo Oil Co.'s No. 1 Henry, NE NW SE, Section 27-12-12, Okfuskee County, was the first test to find the Wilcox sand productive in that area after several other tests were abandoned as dry. It started off making 150 bbls. a day from the Wilcox sand at 3,333-69 feet. A new well by the Fern Oil & Gas Co., its No. 1 CEL SE SE, Section 24-11-11, Okfuskee County, flowed 251 bbls. in 12 hours from the Salt sand at 1,852 feet. The first 24 hours' production was 600 bbls. Most of the production in that area is coming from the Wilcox in the Clearview Pool in 19-11-11.

Deepest Producer in State

Logan County had several deep sand tests in the past six months and established itself as having the deepest producing well in the State. June 29, 1929, was the second anniversary of the finding of oil on the McCully lease in Section 30-19-4w, Logan County, by the Shell Petroleum Corp. The total recovery from the entire pool up to June 29 was in excess of 5,000,000 bbls. The Healdton Oil & Gas Co.'s No. 1 Cragg, SW cor. Section 29-18-4w, Logan County, was producing 130 bbls. a day from the Hunton lime at 6,636-92 feet, which makes it the deepest producing well in Oklahoma. The Shell Petroleum Corp.'s No. 5 Sebronek, extended the producing area to the east one location by finding the Wilcox sand productive at 5,979-6,045 feet, where it produced 1,447 bbls. the first 15 hours. The

GAUGE POLES

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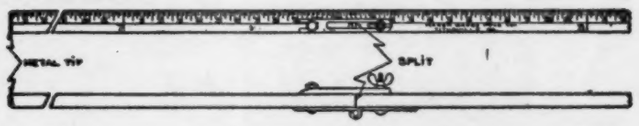

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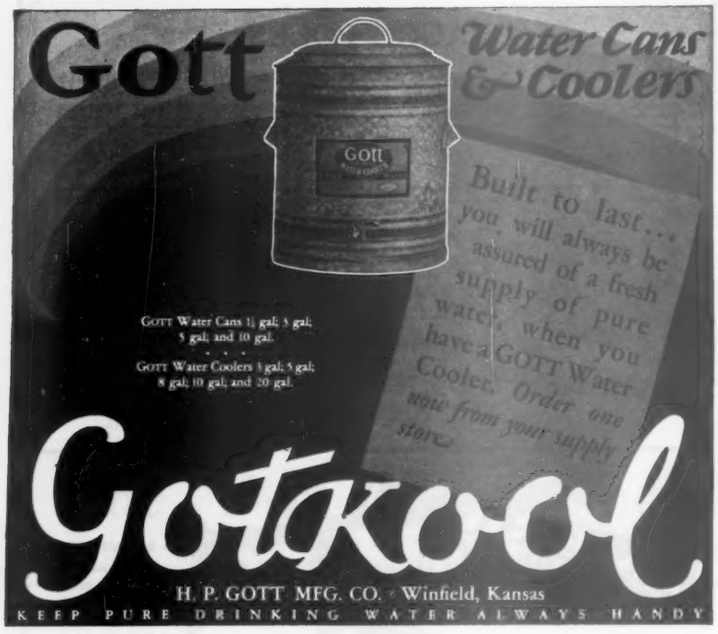
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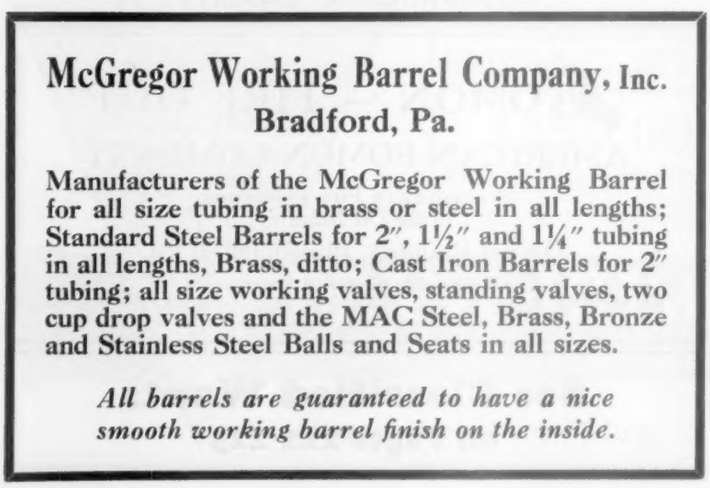
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same company also completed one of the largest wells in the pool when No. 8 McCully, SE SW SE, Section 30-19-4w, Logan County, flowed 6,830 bbls. the first 24 hours from the Wilcox sand at a total depth of 6,047 feet.

Significant Wells

Outstanding wells in Oklahoma during the first six months of 1929 were as follows:

Prairie Oil & Gas Co.'s No. 1 Billington, SW cor. NW, Section 11-8-5, Seminole County, discovered Misener sand in Maud Pool. Sand was from 4,049-67 feet. Produced 2,255 bbls. the first 24 hours.

Shell Petroleum Corp's No. 1 Lingerfelt, SW cor. NW NE, Section 18-8-5, Pottawatomie County, 2,460 bbls. Extended Maud area. Sand record 4,130-31 feet.

Magnolia Petroleum's Co.'s No. 1 Nevins, NE cor. SW SE, Section 32-10-6, Seminole County, northeast extension of Searight Pool. Made 550 bbls. at 4,356-68 feet.

Gypsy Oil Co.'s No. 3 Miller, SE cor. NE SE, Section 18-8-5, Pottawatomie County, largest Misener well in the Maud Pool. Made 8,470 bbls. first 24 hours at 4,026-30 feet.

Barnsdall Oil Co.'s No. 2 Coker, NE cor. SE SW, Section 11-8-5, Seminole County, one of the best Wilcox sand wells in the pool. Initial production 2,840 bbls. at 4,281-93 feet.

Sinclair Oil & Gas Co.'s No. 1 Davis, NW cor. SW SE, Section 7-6-8, Seminole County, initial production 1,025 bbls. at 4,097-4,156 feet. New production horizon for that area.

J. S. Cosden, Inc.'s No. 1 Anderson, NE cor. NW SW, Section 13-9-5, Seminole County, initial production 5,090 bbls. New extension to Earlsboro. Sand at 4,221-29 feet.

Magnolia Petroleum Co.'s No. 1 Latimer, SE cor. SW SW, Section 17-7-4, Pottawatomie County, initial production 1,933 bbls. Wildcat west of St. Louis Pool. Sand at 4,365-4,405 feet.

Simms Oil Co.'s No. 1 Laster, SE cor. NE NE, Section 19-6-4, Pottawatomie County, an important wildcat opening in Asher Pool. Sand at 3,650-99 feet. Initial production 3,750 bbls.

Healdton Oil & Gas Co.'s No. 1 Gragg, SW cor. Section 29-18-4w, Logan County, initial production 130 bbls. The deepest producing well in the State, at 6,636-50 feet.

Keister & Manning and others' No. 1 Kelly, SE cor. NE NE, Section 2-7-4, Pottawatomie County, initial production 2,400 bbls. Extends production 1½ miles northwest of St. Louis Pool. Sand at 3,750-75 feet.

Sinclair Oil & Gas Co.'s No. 1 Kinter, NW cor. SE, Section 30-11-2w, Oklahoma County, 1,500 bbls. of gasoline and from 40,000,000 to 70,000,000 feet of gas. The only gasoline well in the State, producing from 6,192 feet.

Sinclair Oil & Gas Co.'s No. 2 Davis, SW cor. NW SE, Section 7-6-8, Seminole County, initial production 4,024 bbls. at 4,476-79 feet. First Wilcox sand well in the township.

OKLAHOMA

Summary of Wells Completed, First Six Months of 1929

County—	Comp.	Prod.	Dry	Gas
Creek	170	7,305	77	19
Carter	40	1,162	11	3
Grady	22	200	6	14
Kay	35	573	20	9
Kiowa	41	116	36	1
Logan	17	19,001	7	1
Muskogee	71	1,033	43	5
Okfuskee	65	7,264	21	6
Okmulgee	73	1,099	34	9
Osage	138	10,456	54	5
Pontotoc	38	5,593	13	2
Pottawatomie	304	193,160	47	3
Seminole	369	221,809	82	18
Stephens	100	3,981	43	5
Wagoner	41	180	17	17
Caddo	5	76	1	0
Garvin	9	86	6	0
Comanche	4	0	4	0
Oklahoma	5	6,564	0	5
Lincoln	13	165	10	1
Pittsburg	3	0	1	2
Payne	10	1,313	7	0
Hughes	32	4,632	8	7
Grant	5	0	4	1
Cotton	25	415	17	0
Noble	2	0	1	1
Marshall	15	30	11	2
Pawnee	21	1,963	8	1
Jackson	1	0	1	0
Le Flore	2	0	1	1
Tulsa	7	15	5	1
Beckham	6	0	2	4
Latimer	3	0	1	2
Blaine	1	0	1	0
Jefferson	10	620	4	6
Washington	10	49	0	0
Craig	1	0	1	0
Rogers	8	71	2	6
Nowata	4	19	0	1
Texas	1	0	1	0
Garfield	1	0	0	1
Canadian	1	0	1	0
Sequoyah	2	0	1	1
Coal	1	0	1	0
McClain	3	0	3	0
McIntosh	1	0	1	0
Tillman	2	0	2	0
Haskell	2	0	1	1
Total 6 mo. 1929	1,740	488,960	618	149
Total 6 mo. 1928	1,821	328,155	657	292
Difference	81	160,805	39	143

Summary by Months

	Comp.	Prod.	Dry	Gas
January	302	107,386	113	25
February	259	71,834	75	32
March	300	105,749	94	28
April	351	77,060	159	15
May	287	65,509	97	33
June	241	61,422	80	16
First half 1929	1,740	488,960	618	149
First half 1928	1,821	328,155	657	292
First half 1927	2,365	963,276	727	247
First half 1926	2,545	380,359	789	270
First half 1925	2,436	458,049	721	228

GRADUAL CHANGE IN DESIGN OF AIRPLANE

(Continued from Page 208)

10 gallons at a time and, as the average plane will take from 25 to 150 gallons at a filling, it is rather unsatisfactory to fuel a plane from a service station pump. However, on a small field the cost of a more elaborate installation is not justified and the service station pump is being used to a certain extent on the less important fields.

The most practical method of fueling airplanes is to use a gasoline meter which assures a rapid, continuous flow of gasoline. Meters can be placed underground and located at any convenient point on a flying field without offering any obstruction to planes taxiing to and from the hangars or line. They are accurate and safe, and gasoline can be delivered at any predetermined speed, depending on the size of the pump and meter used. For all practical purposes it has been found that a speed of from 18 to 25 gallons per minute is best suited. The speed is governed largely by the size of the opening on the gasoline tanks of the plane.

By the use of meters it is possible to distribute gasoline to any number of points on a field from a central pumping and storage plant located at some point adjacent to the center of activity. Such an advantage is obvious. It allows an operator starting to develop a field to make an installation sufficient for his present need and capable of growing with the development of business on the field. As activities increase additional meters can be added without disturbing the original installation, and distribution of gasoline can be accomplished to any number of points at a nominal cost.

There is practically no limit to the distance gas can be pumped economically and safely. The only thing which limits this distance is the point where the cost of pipe line exceeds the cost of installing an additional pumping unit and meter. Gasoline is now being pumped over 1,500 feet at one of the Pacific Coast airports with possibilities of this distance being increased to over 2,000 feet.

Associated Station

The Associated Oil Co. has recently completed an installation at the Oakland municipal airport, Oakland, Calif., which consists of two meter dispensing units, together with the necessary underground storage tanks, building, lubricating oil tanks, and other accessories. It consists of a 1-inch meter installed in a steel pit underground. This steel box or "service pit" is installed with the covers flush with the top of the ground. The covers are of steel and of sufficient strength to support the heaviest type of plane.

There are three of these covers, dividing the pit into three sections. One section contains the 1-inch meter and strainer; the next contains two 50-foot hose reels, one for water and the other for air; and the third section contains a reel holding 50 feet of 1¼-inch gasoline

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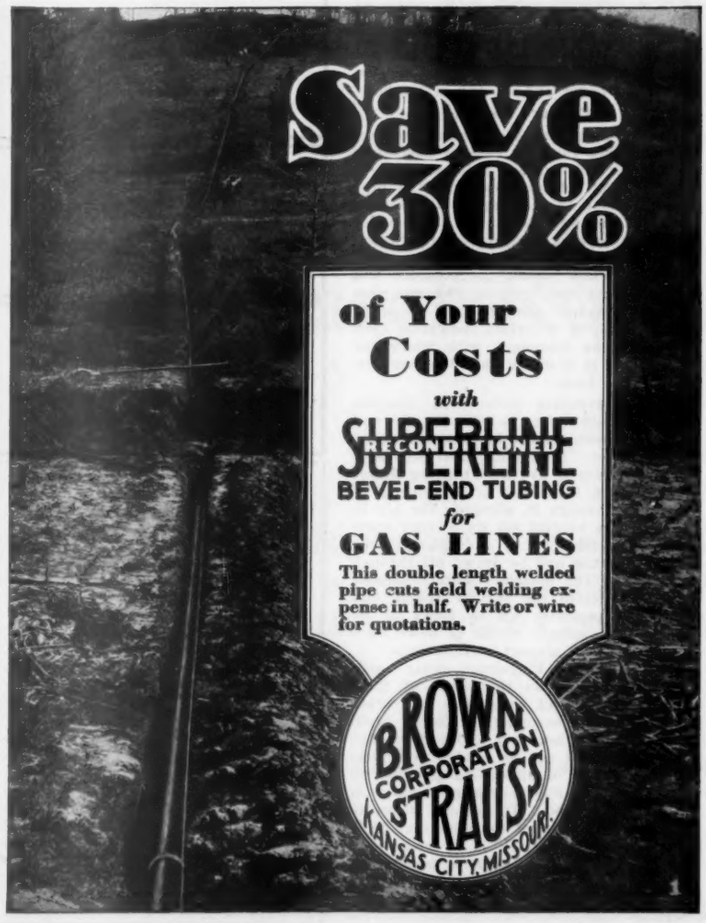

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hose. On the end of the hose in an outlet valve with a flexible nozzle for inserting in the gasoline tank. This length of hose allows the operator to reach the gas tank on any size ship without the necessity of close maneuvering of the plane. The service pit is entirely piped up when received, and it is only necessary to connect the pit to the pipe lines.

Several different types of pit are manufactured, most of which are not quite as elaborate and are designed for use at smaller fields, the air and water hose having been eliminated. The Associated Oil Co. has developed a pressure controlled system for pumping gasoline from the underground tanks to the service pits which has proved very satisfactory. The starting and stopping of the electrically operated pump is accomplished by the opening and closing of the valve on the nozzle at the end of the hose in the service pit.

The gasoline system operates as follows: Gasoline is piped from the tank to the pump. From the pump the discharge pipe is led to a pressure chamber, then through an air and water separator, suitable filters and strainers, and out to the service pit. A small pipe is led from the pressure chamber to an electrically operated pressure gauge.

Standardized three-unit service station for large airport.

This gauge is so arranged that as the pressure increases or decreases an electric contact is made or broken and the pump stopped or started. A chamois filter is installed at some convenient point in the pipe line, and in addition there is a strainer ahead of the meter with a 100-mesh screen in it. Also at the nozzle on the end of the gasoline hose there is another small strainer placed so that it will pick up any scale from the metallic hose and pipe line between the meter and the end of the hose.

Pressure Control

An advantage of the pressure control system other than its ease of operation, is that it acts as an automatic alarm in the event of any leaks in the pipe lines. Owing to the long distances gasoline can be pumped, it is possible for leaks to develop underground without being detected. In the event of a leak, no matter how small, the pressure will drop in the lines, causing the pump to start. Frequent starting and stopping of the pump is a certain indication of a leak and the frequency with which the motor cuts in is indication of the seriousness of the leak.

As an accurate meter will measure both air and water, a suitable air and water separator must be installed ahead of the meter. A very excellent separator is manufactured by the Granberg Meter Corp. which slows down the velocity of the flow through it, allowing the air to rise and be carried off by a vent operated by a float valve, and allowing the water to settle and be drawn off through a valve in the bottom. This separator has been tested for various speeds and functions perfectly up to flows of 90 gallons per minute which is more than ample for any airport installations.

The Granberg Petroleum meter needs no introduction, as thousands of them are in use by oil companies and other concerns for measuring petroleum products, and their accuracy and performance are proven. It can be readily seen that such a system of dispensing gasoline on a flying field approaches very close to the ideal method. It is fast, accurate and safe, and assures the pilot that he is getting gasoline which is as clean and free from impurities as it is possible to deliver to an airplane.

The cost of such a system can be favorably compared with the cost of an

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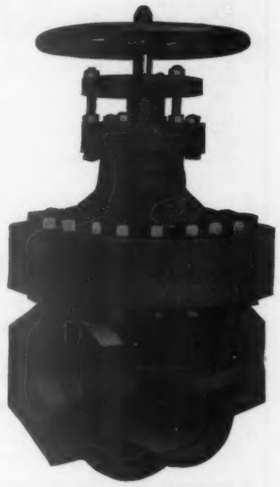

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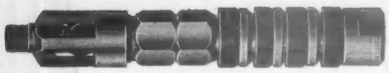

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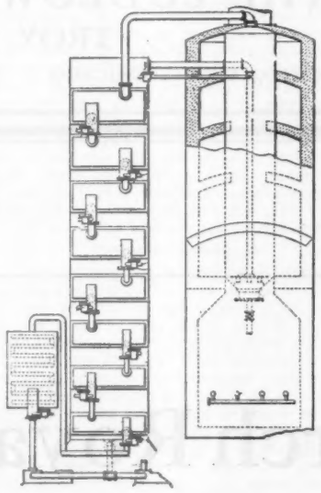
automobile filling station. In some cases such an expenditure might not be justified, due to the limited sale on some fields. In these instances it is possible to so arrange the facilities as to provide service for both automobiles and planes. This can be done by locating the facilities at the edge of the flying field so that automobile service can be given from one side and airplane service from the other. At the same time the layout can be arranged so that one service will not interfere with the other. Under these conditions, naturally more than one grade of gasoline must be handled.

In conclusion, it is the writer's belief that a metered system of gasoline distribution on a flying field is the proper method of getting gasoline into an airplane fuel tank with safety and at a reasonable cost. This method is being used by all progressive fields on the Pacific Coast, and the Associated Oil Co. has made this type of installation at many airports on the Pacific Coast.

Recent Patents

1,713,256. Apparatus for Distilling Liquid Mixtures. David G. Brandt, Westfield, N. J., assignor, by mesne assignments, to Heat Treating Co., New York, N. Y., a corporation of Delaware. Original application filed March 24, 1920, Serial No. 368,221. Divided and this application filed September 24, 1926. Serial No. 137,410. 10 Claims. (Cl. 196—73.)

5. In a liquid and fractionating apparatus, a series of superposed fractionating chambers, a series of connected condensing coils in said chambers, a liquid separating trap for each coil, a series of



separate cooling coils leading from each liquid trap through successively cooler chambers, a liquid vaporizer communicating with the last of said chambers and with the condensing coil in said chamber, means for passing liquid to be fractionated through said chambers in series in contact with said coils then into said vaporizer, and a liquid cooling coil leading from said vaporizer through successively cooler chambers.

DISTILL WITH HOT GASES

1,717,007. Process for Converting Petroleum Oils. Walter M. Cross, Kansas City, Mo., assignor, by mesne assignments, to Gasoline Products Co., Inc., Wilmington, Del., a corporation of Delaware. Filed October 14, 1922. Serial No. 594,492. Seven claims. (Cl. 196—65.)

4. A process of converting hydrocarbon oils comprising heating oil in a coil and collecting the heated oil in a substantial body, imposing pressure upon the oil body, sufficient to maintain it in substantially liquid phase, adding a combustion supporting gas to the body of oil to raise the temperature above that of the oil in the heating coil.

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Oklahoma-Kansas and Eastern Pipe Line Report

OKLAHOMA-KANSAS

Pipe Line Statement for May

Runs

	Month	Dy. av.
Prairie Pipe Line Co.* ..	4,727,500	152,500
Gulf Pipe Line Co.	1,898,777	61,251
Texas Pipe Line Co.	895,813	28,897
Empire Pipe Line Co. ..	1,356,261	43,750
Magnolia Pipe Line Co. ..	2,311,910	74,577
Cosden Pipe Line Co. ...	962,893	31,061
Sinclair Pipe Line Co. ..	3,255,000	105,000
Oklahoma Pipe Line Co..	3,014,294	97,235
Other lines	6,572,000	212,000
Total May	24,994,401	806,271
Total April	23,348,339	778,278
Difference	1,646,062	27,993

Shipments

Prairie Pipe Line Co.†...	6,098,712	196,732
Gulf Pipe Line Co.	1,706,162	55,037
Texas Pipe Line Co.	1,139,132	36,746
Empire Pipe Line Co. ..	1,578,151	50,908
Magnolia Pipe Line Co...	2,326,603	75,052
Cosden Pipe Line Co. ...	825,750	26,637
Sinclair Pipe Line Co.†..	3,543,017	114,291
Oklahoma Pipe Line Co..	3,105,575	100,180
Other Lines	6,572,000	212,000
Total May	26,895,092	867,584
Total April	25,195,911	839,863
Difference	1,699,181	27,721

Stocks

Prairie Oil & Gas Co.*	37,272,000
Gulf Pipe Line and Gypsy Oil Co.	9,717,375
The Texas Company	8,483,149
Empire Pipe Line Co.	3,906,877
Cosden Pipe Line Co.	3,610,377
Sinclair Crude Oil Pur. Co.*	20,530,000
Magnolia Petroleum Co.	9,849,110
Oklahoma Pipe Line Co.	3,313,262
Carter Oil Co.	11,350,344
Other lines*	10,687,000
Total May	118,519,294
Total April	119,418,334
Difference	899,040

*Estimated. †Prairie and Sinclair shipments include Texas crude oil.

Note—Stocks do not include approximately 5,400,000 bbls. of crude oil held in storage on private tank farms and leases.

EASTERN PIPE LINE REPORT

Runs from Wells

In the following table will be found the regular receipts from wells by various pipe lines in New York, Pennsylvania, West Virginia, Ohio, Kentucky and Indiana for May and June:

	May,'29	June,'29
Nat. Transit	253,769.83	249,968.13
S. W. Pa. P. L.	100,936.95	92,002.02
Eureka P. L.	380,915.89	352,969.84
Buckeye P. L. (Macksburg)	343,829.07	319,202.71
Buckeye P. L. (Cleveland)	12,404.93	11,542.95
Buckeye P. L. (Lima, etc.)	111,166.94	129,902.81
Indiana P. L.	5,648.56	6,724.29
Cumberland P. L. ..	199,988.52	171,863.19
N. Y. Transit	31,526.85	30,739.37
Tidewater P. L.	260,931.30	258,170.51
Pure Oil	*62,790.66	55,379.02
Emery P. L.	69,891.53	65,056.05
Paragon Dev.	17,045.54	15,723.09
Stoll Oil Ref.	6,113.39	5,767.22
Total	1,856,959.95	1,765,016.19
Daily average ...	59,901.93	58,833.87

Note—Indian Refining Co. also reported other receipts of 329,785.68 bbls. Paragon Refining Co. had other receipts of 205,750.79 bbls. Paragon Development had other receipts of 192.83 bbls.

Petroleum Deliveries

The following tables exhibit the shipments of regular deliveries of various pipe lines in New York, Pennsylvania, West Virginia, Ohio, Kentucky for May and June:

	May,'29	June,'29
Nat. Transit	571,534.68	525,961.70
S. W. Pa. P. L.	384,900.26	443,209.38
Eureka P. L.	242,388.07	249,279.44
Buckeye P. L. (Macksburg)	219,775.55	192,141.28
Buckeye P. L. (Cleveland)	2,185.24	2,429.40
Buckeye P. L. (Lima, etc.) ...	1,597,379.34	1,574,302.18
Indiana P. L.	1,456,199.10	1,380,019.54
Cumberland P. L. ..	212,951.47	218,131.40
N. Y. Transit	332,843.23	250,768.40
Northern P. L.	190,228.92	160,597.19
Tidewater P. L.	210,039.70	222,328.15
Pure Oil	61,580.15	58,555.68
Emery P. L.	74,596.34	67,073.09
Paragon Ref.	186,897.16	199,644.69
Paragon Dev.	19,208.47	17,693.24
Total	5,712,708.28	5,562,134.76
Daily average ...	184,280.91	185,404.19

Indian Refining Co. reported other deliveries of 37,231.21 bbls.

Gross Stocks

The gross stocks held by various pipe lines in the oil producing sections of New York, Pennsylvania, West Virginia, Ohio, Indiana and Kentucky at the close of May and June:

	May,'29	June,'29
Nat. Transit	800,104.62	691,399.07
S. W. Pa. P. L.	466,368.92	535,525.28
Eureka P. L.	1,224,524.89	1,214,331.14
Buckeye P. L. (Macksburg)	463,437.44	462,009.23
Buckeye P. L. (Cleveland)	54,068.74	50,131.07
Buckeye P. L. (Lima, etc.)	1,917,019.67	2,058,348.18
Indiana P. L.	507,698.71	542,191.55
Cumberland P. L. ..	581,865.71	539,241.87
Southern P. L.	488,042.66	471,032.50
N. Y. Transit	233,636.63	256,751.69
Northern P. L.	408,913.03	332,496.47
Tidewater P. L.	1,291,934.65	1,279,682.60
Pure Oil	13,042.02	10,619.05
Emery P. L.	9,439.08	7,937.53
Paragon Ref.	17,668.51	23,504.69
Indian Ref.	152,604.26	145,225.80
Paragon Dev.	7,540.82	6,051.72
Tuscarora	265,649.33	264,796.11
Total	8,903,559.70	8,921,275.05
Decrease	74,612.15	.....
Increase	.....	17,715.35

Grades of Oil

The following table shows the amount of the different grades of oil held by the eastern pipe lines at the close of May and June showing the gross stocks of the above fields:

	May,'29	June,'29
Pennsylvania	3,350,662.61	3,279,171.77
Lima	587,235.33	635,542.29
Kentucky	787,127.03	718,933.39
Mid-Continent	3,788,393.60	3,914,745.95
Illinois	390,141.13	372,881.65
Total	8,903,559.70	8,921,275.05

Daily Average Runs

The following table shows the daily average runs of the Pennsylvania, Lima and Kentucky oil fields for the past four years:

	1926	1927	1928	1929
January	55,630	56,209	52,904	51,749
February ...	60,394	61,298	57,002	51,833
March	61,644	63,247	57,485	54,252
April	63,019	60,927	56,812	58,444
May	60,580	60,284	62,067	59,902
June	61,121	62,757	58,230	58,833
July	62,206	58,674	57,144	.....
August	61,815	60,870	57,745	.....
September ..	64,639	60,285	53,487	.....
October ...	161,132	147,080	58,100	.....
November ..	67,774	57,275	53,565	.....
December ...	58,755	53,089	52,025	.....

Daily Average Shipments

The following table gives daily average shipments from the Pennsylvania, Lima and other fields for the past four years:

	1926	1927	1928	1929
January	156,056	141,227	146,465	165,721
February ...	159,488	138,534	167,368	159,387
March	150,239	133,777	158,883	161,474
April	152,374	140,227	172,935	169,737
May	160,998	144,594	180,559	184,281
June	160,267	149,772	188,024	185,404
July	160,045	151,850	189,470	.....
August	151,929	188,653	192,853	.....
September ..	158,915	144,213	194,138	.....
October	161,132	147,036	176,000	.....
November ...	172,608	150,975	176,898	.....
December ...	136,428	144,504	173,572	.....

Gross Stocks

In the following table will be found the gross stocks of the various lines of the Pennsylvania, Lima and Kentucky oil fields including oil received from other lines at the close of each month for the past three years:

	1927	1928	1929
January	9,718,008	12,276,710	7,596,564
February ...	10,119,162	12,180,419	8,738,835
March	10,794,044	12,239,725	9,002,060
April	11,112,295	11,740,125	8,978,170
May	11,359,381	11,692,468	8,903,580
June	11,493,673	11,287,678	8,921,275
July	11,458,128	10,819,331	.....
August	11,989,115	10,236,743	.....
September ..	12,212,716	9,660,910	.....
October	12,047,661	9,229,709	.....
November ...	11,939,740	8,366,553	.....
December ...	12,340,297	7,539,555	.....

Franklin Pipe Co.

The following table exhibits the condition of the Franklin Pipe Line at the close of business for the months named and not counted in the stocks and averages reported above:

1928—	Runs	Shipments	Stocks
June	3,153.08	2,779.02	17,922.59
July	2,902.50	3,628.02	17,197.06
August	2,874.11	2,350.13	17,721.04
September	2,820.31	5,255.42	15,285.93
October	1,289.93	538.89	17,551.93
November	2,663.53	788.47	19,426.99
December	3,053.60	3,167.53	19,426.99
1929—			
January	2,099.90	.....	19,313.06
February	2,469.47	6,873.20	17,009.33
March	3,330.82	3,595.01	16,745.04
April	4,864.07	4,243.59	17,365.52
May	2,688.59	2,455.54	17,598.57

The Illinois Field

The following table gives the report of the Illinois Pipe Line Co. in Illinois:

Gross stocks, July 1	2,538,116.68
Runs from wells	543,196.34
Other receipts	664,331.36
Regular deliveries	776,354.88
Other deliveries	352,697.11

The amount of Illinois oil run by the Tidewater Pipe Co. in June was 25,258.36 bbls. Deliveries were 42,491.09 bbls. Adding these figures to those of the Illinois Pipe Line Co. makes the runs and deliveries as follows:

1928—	Runs	Deliveries
July	612,286.49	565,678.37
August	639,074.85	671,864.02
September	570,307.91	737,293.50
October	626,147.64	626,290.40
November	576,332.88	702,589.93
December	584,633.00	491,517.20
1929—		
January	570,727.38	545,084.66
February	517,330.17	503,387.70
March	728,319.67	586,049.60
April	515,374.27	654,297.96
May	608,981.60	673,812.83
June	568,454.70	818,845.97

Tidewater Pipe Co., Ltd., also delivered in June 108,920.66 bbls. Oklahoma oil.

AVERAGE DAILY RECEIPTS OF CALIFORNIA OIL AT ATLANTIC AND GULF COAST PORTS

Average bbls. per day—	ATLANTIC PORTS						GULF COAST PORTS					
	Baltimore	Boston	New York	Philadelphia	Others	Total	Galveston	New Orleans Baton Rouge	Port Arthur Sabine Pass	Tampa	Total	Total all ports
December	4,968	2,968	24,678	18,806	3,064	54,484	.....	.....	.....	.....	2,419	56,903
January	15,838	.....	16,676	11,838	7,938	52,290	.....	.....	.....	.....	5,161	57,451
February	14,214	.....	38,750	17,260	11,607	81,321	.....	.....	.....	.....	2,750	85,571
March	19,902	968	31,258	18,581	7,355	78,065	.....	.....	.....	.....	.....	78,065
April	16,667	.....	32,333	13,233	2,234	64,467	.....	.....	.....	.....	7,333	65,200
May	16,226	2,416	31,326	10,806	2,129	62,903	.....	.....	.....	.....	.....	62,903

AVERAGE DAILY IMPORTS OF PETROLEUM AT PRINCIPAL UNITED STATES PORTS

Average bbls. per day—	ATLANTIC PORTS						GULF COAST PORTS					
	Baltimore	Boston	New York	Philadelphia	Others	Total	Galveston	New Orleans Baton Rouge	Port Arthur Sabine Pass	Tampa	Total	Total all ports
December	15,419	15,968	140,871	42,333	8,709	223,290	2,903	35,129	2,355	.....	40,387	263,677
January	11,936	8,903	130,065	34,871	15,709	201,484	.....	34,808	4,093	1,287	40,193	241,677
February	13,750	15,071	135,179	32,750	17,893	214,643	.....	34,357	821	143	35,321	249,964
March	18,548	26,064	145,516	39,162	28,162	257,452	.....	42,581	2,322	.....	44,903	302,355
April	19,733	18,367	137,233	50,267	23,567	248,167	6,867	25,066	10,367	1,500	43,800	291,967
May	29,806	19,258	138,000	49,936	22,323	259,322	6,677	26,323	3,000	1,323	37,323	296,645

GROSS PRODUCTION IN UNITED STATES FOR 12 MONTHS

(In barrels of 42 gallons)

1928—		California	Oklahoma	Texas	Kansas	Arkansas	Louisiana	Rocky Mts.	Eastern	Total
June:	Month	19,164,244	18,462,981	19,877,936	5,202,050	3,075,911	2,074,422	2,425,470	3,401,000	71,704,014
	Daily average	638,808	616,099	662,598	106,735	102,530	69,147	80,849	113,367	2,390,134
July:	Month	19,754,455	18,809,185	22,055,787	5,171,548	3,792,139	2,238,090	2,492,556	3,487,000	74,800,746
	Daily average	637,241	606,748	711,475	102,308	90,069	72,131	80,406	113,484	2,412,927
August:	Month	19,444,899	20,840,804	22,339,131	5,147,058	3,711,787	1,989,264	2,561,840	3,556,000	76,590,783
	Daily average	627,255	672,284	720,448	101,518	87,477	64,170	82,640	114,709	2,470,670
September:	Month	18,902,169	22,456,860	21,554,369	5,047,250	3,540,070	1,830,225	2,432,430	3,229,000	75,998,273
	Daily average	630,273	748,562	718,207	101,575	84,669	61,007	81,047	104,300	2,533,279
October:	Month	19,430,992	23,431,071	22,176,853	5,058,460	3,652,434	1,836,221	2,571,832	3,612,000	78,769,903
	Daily average	626,806	755,841	715,376	98,660	85,564	59,233	82,962	116,516	2,540,964
November:	Month	19,907,536	22,078,680	20,791,798	4,977,800	3,476,080	1,801,914	2,388,870	3,348,000	75,770,668
	Daily average	663,584	735,956	693,059	99,260	82,536	60,064	79,629	111,600	2,505,689
December:	Month	21,574,703	23,435,722	23,180,102	5,033,400	3,521,671	1,846,841	2,239,040	3,581,000	79,407,379
	Daily average	695,958	733,616	715,487	96,400	81,341	59,576	72,840	115,516	2,561,528
1929—										
January:	Month	23,385,939	23,417,030	23,412,192	5,361,641	3,453,526	1,807,887	2,076,070	3,279,000	81,793,285
	Daily average	754,385	723,130	755,232	92,311	79,146	58,318	66,970	109,000	2,638,492
February:	Month	23,300,707	20,443,764	20,816,209	3,557,963	2,154,194	1,569,930	1,965,656	3,122,000	74,935,428
	Daily average	796,454	730,313	743,436	91,356	76,936	56,068	70,202	111,500	2,676,265
March:	Month	24,324,739	20,833,262	24,358,592	2,951,076	2,241,734	1,756,153	2,195,822	3,503,000	82,164,369
	Daily average	784,669	672,202	784,669	95,196	72,314	56,650	70,833	113,000	2,650,623
April:	Month	23,295,060	20,235,390	23,493,097	3,106,980	2,188,680	1,702,497	2,085,030	3,516,000	77,622,734
	Daily average	776,502	674,513	783,103	103,566	72,956	56,750	69,501	117,200	2,654,090
May:	Month	24,063,351	21,345,452	24,488,751	3,665,099	2,220,158	1,713,261	2,241,641	3,596,000	83,323,714
	Daily average	775,915	688,563	789,960	118,229	71,618	55,267	72,311	116,000	2,687,363
Total 12 months		255,544,777	253,810,205	267,544,667	36,735,330	30,028,346	22,166,705	27,726,278	41,330,000	934,886,298
		700,123	695,371	732,999	100,645	82,269	60,731	75,962	113,233	2,561,332

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With TIMKEN taper roller main and pinion bearings . . . . with 99.4% mechanically efficient continuous tooth Herringbone gears . . . . and with every moving part running in an oil bath within a dust-proof crank case . . . . the Gaso Figure 1508 Pump is built to *consume a minimum amount of power and to give maximum service.*

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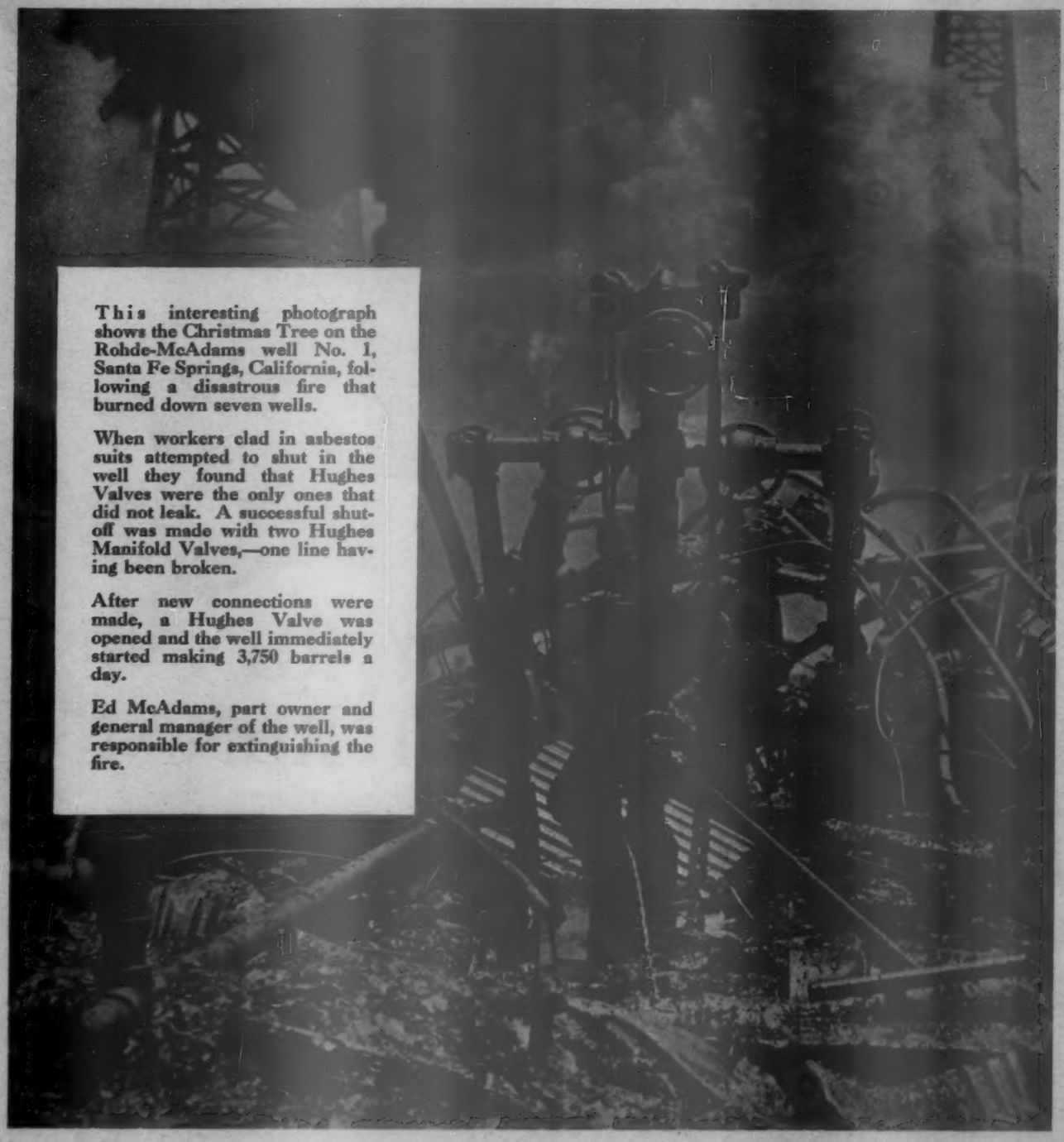
Unusual Evidence of the Superior Performance of HUGHES VALVES



This interesting photograph shows the Christmas Tree on the Rohde-McAdams well No. 1, Santa Fe Springs, California, following a disastrous fire that burned down seven wells.

When workers clad in asbestos suits attempted to shut in the well they found that Hughes Valves were the only ones that did not leak. A successful shut-off was made with two Hughes Manifold Valves,—one line having been broken.

After new connections were made, a Hughes Valve was opened and the well immediately started making 3,750 barrels a day.

Ed McAdams, part owner and general manager of the well, was responsible for extinguishing the fire.

This is but another instance where Hughes Valves proved their superior performance under extreme conditions.

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